Form a Proportion

Create a proportion from each set of numbers. Only use 4 numbers from each set.

1) 12, 32, 10, 16, 24

$$12 : 16 = 24 : 32$$

2) 35, 1, 2, 10, 70

_____

3) 25, 7, 16, 80, 5

_____

4) 9, 48, 12, 6, 24

_____

5) 60, 5, 8, 96, 11

_____

6) 15, 63, 13, 21, 39

_____

7) 88, 8, 61, 32, 22

_____

8) 5, 72, 9, 21, 40

_____

9) 6, 36, 7, 29, 42

_____

10) 97, 63, 81, 27, 21

_____

Form a Proportion

Create a proportion from each set of numbers. Only use 4 numbers from each set.

1) 2, 42, 84, 11, 1

$$\underline{\mathbf{1 : 2 = 42 : 84}}$$

2) 11, 13, 60, 15, 44

_____

3) 30, 7, 90, 36, 12

_____

4) 1 , 40, 80, 2, 5

_____

5) 17, 69, 11, 33, 23

_____

6) 65, 13, 19, 90, 18

_____

7) 4, 7, 77, 44, 2

_____

8) 7, 9, 72, 81, 8

_____

9) 56, 98, 13, 28, 49

_____

10) 43, 52, 86, 27, 26

_____

Name : _____

Form a Proportion

Create a proportion from each set of numbers. Only use 4 numbers from each set.

1) 13, 45, 76, 19, 52

19 : 13 = 76 : 52

2) 27, 45, 81, 7, 15

_____

3) 8, 4, 18, 1, 72

_____

4) 46, 11, 20, 23, 10

_____

5) 3, 21, 5, 8, 35

_____

6) 5, 3, 30, 90, 1

_____

7) 36, 27, 6, 12, 2

_____

8) 6, 56, 21, 24, 14

_____

9) 3, 78, 99, 2, 52

_____

10) 11, 55, 19, 95, 16

_____

Name : _____

Form a Proportion

Create a proportion from each set of numbers. Only use 4 numbers from each set.

1) 16, 12, 48, 36, 8

   12 : 16 = 36 : 48
   _____

2) 6, 2, 4, 5, 3

   _____

3) 78, 12, 16, 13, 96

   _____

4) 6, 13, 60, 40, 4

   _____

5) 90, 3, 1, 17, 30

   _____

6) 25, 54, 1, 3, 18

   _____

7) 63, 7, 5, 45, 4

   _____

8) 49, 7, 5, 13, 91

   _____

9) 84, 2, 3, 56, 7

   _____

10) 78, 26, 8, 11, 24

   _____

Form a Proportion

Create a proportion from each set of numbers. Only use 4 numbers from each set.

1) 63, 9, 99, 4, 28

9 : 4 = 63 : 28

2) 80, 81, 12, 20, 48

3) 5, 77, 75, 45, 3

4) 96, 64, 1, 3, 2

5) 60, 50, 30, 20, 40

6) 18, 3, 1, 6, 13

7) 3, 84, 28, 21, 9

8) 9, 15, 60, 36, 95

9) 7, 28, 6, 24, 29

10) 12, 3, 37, 32, 8

Adding Integers

L1S1

Find the sum.

1) $8 + 20 =$ _____

2) $(-15) + (-3) =$ _____

3) $17 + (-19) =$ _____

4) $(-6) + 20 =$ _____

5) $(-11) + 4 =$ _____

6) $18 + (-17) =$ _____

7) $(-7) + (-10) =$ _____

8) $10 + 2 =$ _____

9) $4 + (-16) =$ _____

10) $(-1) + (-14) =$ _____

11) $15 + 9 =$ _____

12) $(-8) + 16 =$ _____

13) $(-12) + 14 =$ _____

14) $13 + (-9) =$ _____

15) $(-18) + (-5) =$ _____

16) $(-20) + 11 =$ _____

Adding Integers

Find the sum.

1) $19 + (-13) =$ _____

2) $(-4) + 11 =$ _____

3) $(-2) + (-20) =$ _____

4) $18 + 1 =$ _____

5) $15 + 3 =$ _____

6) $(-9) + (-14) =$ _____

7) $(-6) + 16 =$ _____

8) $12 + (-17) =$ _____

9) $(-11) + (-7) =$ _____

10) $(-8) + 8 =$ _____

11) $20 + (-15) =$ _____

12) $2 + 13 =$ _____

13) $(-18) + 5 =$ _____

14) $(-19) + (-5) =$ _____

15) $17 + 4 =$ _____

16) $10 + (-12) =$ _____

Adding Integers

L1S3

Find the sum.

1) $(-16) + 2 =$ _____

2) $9 + 13 =$ _____

3) $11 + 15 =$ _____

4) $17 + (-8) =$ _____

5) $(-3) + (-10) =$ _____

6) $(-11) + 5 =$ _____

7) $20 + (-5) =$ _____

8) $(-19) + (-1) =$ _____

9) $(-6) + 18 =$ _____

10) $10 + (-9) =$ _____

11) $(-4) + (-12) =$ _____

12) $7 + (-20) =$ _____

13) $19 + 8 =$ _____

14) $(-18) + 3 =$ _____

15) $5 + (-13) =$ _____

16) $(-15) + (-14) =$ _____

Adding Integers

L1S4

Find the sum.

1) $(-6) + 5 = $ _____

2) $8 + (-3) = $ _____

3) $(-16) + (-17) = $ _____

4) $14 + 20 = $ _____

5) $(-2) + 9 = $ _____

6) $9 + (-15) = $ _____

7) $(-6) + (11) = $ _____

8) $16 + 4 = $ _____

9) $7 + (-5) = $ _____

10) $(-13) + (-1) = $ _____

11) $(-8) + (-2) = $ _____

12) $12 + 8 = $ _____

13) $(-4) + (-14) = $ _____

14) $6 + (-9) = $ _____

15) $18 + 16 = $ _____

16) $(-16) + 8 = $ _____

Adding Integers

Find the sum.

1) $(-2) + (-7) = $ _____

2) $8 + 18 = $ _____

3) $(-18) + 1 = $ _____

4) $(-1) + (-8) = $ _____

5) $5 + (-12) = $ _____

6) $(-14) + 7 = $ _____

7) $6 + 19 = $ _____

8) $8 + (-4) = $ _____

9) $(-8) + (-15) = $ _____

10) $(-18) + 3 = $ _____

11) $(-5) + 11 = $ _____

12) $(-10) + (-1) = $ _____

13) $6 + (-16) = $ _____

14) $11 + 19 = $ _____

15) $(-11) + 16 = $ _____

16) $(-1) + (-5) = $ _____

Name : _____

Squaring Numbers

A) Find the values of the following.

1) $\left(\dfrac{9}{2}\right)^2$

2) $\left(\dfrac{7}{3}\right)^2$

3) $\left(\dfrac{6}{25}\right)^2$

_____

_____

_____

4) $\left(\dfrac{5}{3}\right)^2$

5) $\left(\dfrac{18}{7}\right)^2$

6) $\left(\dfrac{2}{5}\right)^2$

_____

_____

_____

B) Find the squares of the following numerals.

1) $\dfrac{3}{4}$

2) $\dfrac{6}{11}$

3) $\dfrac{9}{7}$

_____

_____

_____

4) $\dfrac{6}{17}$

5) $\dfrac{15}{4}$

6) $\dfrac{17}{9}$

_____

_____

_____

C) 1) Which of the following is the square of $\dfrac{5}{2}$?

i) $\dfrac{25}{4}$

ii) $\dfrac{10}{2}$

iii) $\dfrac{25}{2}$

iv) $\dfrac{10}{4}$

2) Which of the following is equal to $\left(\dfrac{1}{6}\right)^2$?

i) $\dfrac{36}{6}$

ii) $\dfrac{1}{12}$

iii) $\dfrac{1}{36}$

iv) $\dfrac{36}{12}$

Name : _____

Squaring Numbers

A) Find the values of the following.

1) $\left(\dfrac{8}{9}\right)^2$

2) $\left(\dfrac{5}{7}\right)^2$

3) $\left(\dfrac{10}{9}\right)^2$

_____

_____

_____

4) $\left(\dfrac{1}{2}\right)^2$

5) $\left(\dfrac{5}{4}\right)^2$

6) $\left(\dfrac{9}{5}\right)^2$

_____

_____

_____

B) Find the squares of the following numerals.

1) $\dfrac{2}{9}$

2) $\dfrac{13}{8}$

3) $\dfrac{7}{4}$

_____

_____

_____

4) $\dfrac{15}{2}$

5) $\dfrac{3}{5}$

6) $\dfrac{1}{7}$

_____

_____

_____

C) 1) What do we get when we multiply $\dfrac{7}{12}$ by itself ?

i) $\dfrac{7}{144}$ ii) $\dfrac{49}{24}$ iii) $\dfrac{14}{24}$ iv) $\dfrac{49}{144}$

2) Find the value of $\left(\dfrac{2}{9}\right)^2$.

i) $\dfrac{4}{18}$ ii) $\dfrac{4}{81}$ iii) $\dfrac{81}{4}$ iv) $\dfrac{18}{4}$

Squaring Numbers

A) Find the values of the following.

1) $\left(\dfrac{3}{7}\right)^2$

2) $\left(\dfrac{8}{5}\right)^2$

3) $\left(\dfrac{11}{6}\right)^2$

_____

_____

_____

4) $\left(\dfrac{14}{3}\right)^2$

5) $\left(\dfrac{8}{9}\right)^2$

6) $\left(\dfrac{2}{11}\right)^2$

_____

_____

_____

B) Find the squares of the following numerals.

1) $\dfrac{12}{5}$

2) $\dfrac{7}{9}$

3) $\dfrac{1}{2}$

_____

_____

_____

4) $\dfrac{8}{7}$

5) $\dfrac{2}{15}$

6) $\dfrac{7}{6}$

_____

_____

_____

C) 1) Which of the following is the square of $\dfrac{4}{3}$?

i) $\dfrac{8}{9}$

ii) $\dfrac{16}{9}$

iii) $\dfrac{16}{6}$

iv) $\dfrac{8}{6}$

2) Which of the following is equal to $\left(\dfrac{5}{9}\right)^2$?

i) $\dfrac{10}{18}$

ii) $\dfrac{25}{18}$

iii) $\dfrac{25}{81}$

iv) $\dfrac{10}{81}$

Missing Sides

Find the value of x and compute the length of the sides for each triangle.

1)
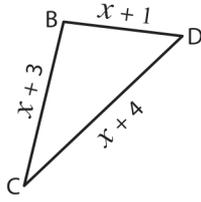
Perimeter = 17 m ; $x =$ _____ ;

BC = _____ ; CD = _____ ; BD = _____

2)
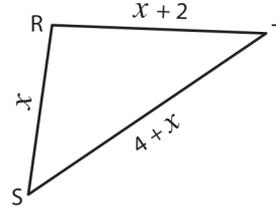
Perimeter = 21 cm ; $x =$ _____ ;

RS = _____ ; ST = _____ ; RT = _____

3)
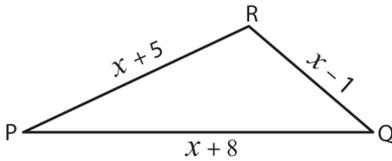
Perimeter = 36 mm ; $x =$ _____ ;

PQ = _____ ; QR = _____ ; PR = _____

4)
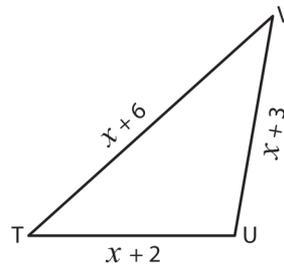
Perimeter = 41 m ; $x =$ _____ ;

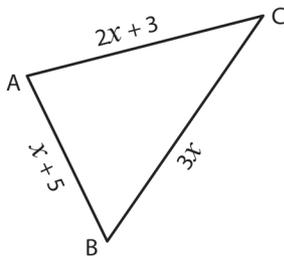TU = _____ ; UV = _____ ; TV = _____
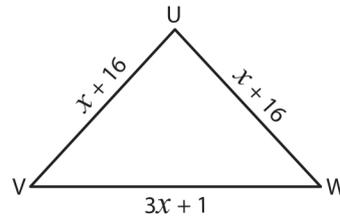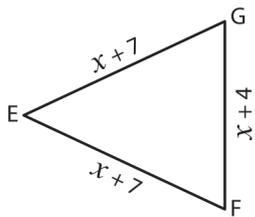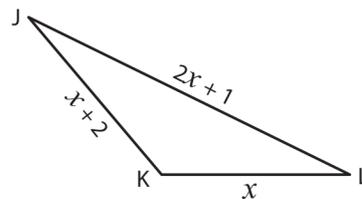
5)
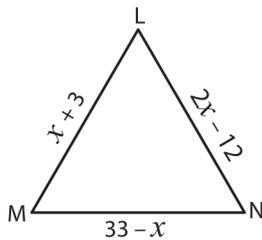
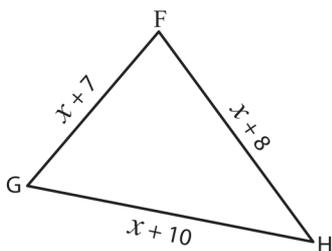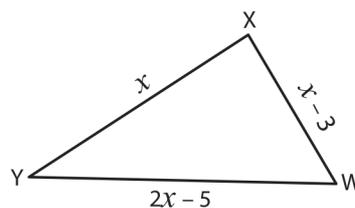Perimeter = 54 cm ; $x =$ _____ ;

LM = _____ ; MN = _____ ; LN = _____

6)
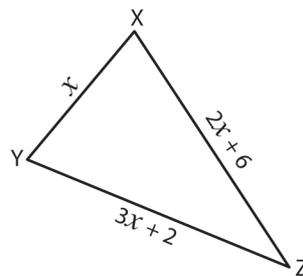
Perimeter = 32 mm ; $x =$ _____ ;

XY = _____ ; YZ = _____ ; XZ = _____

7)
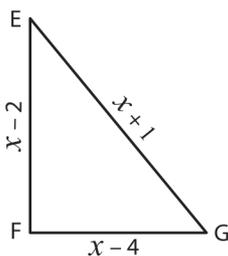
Perimeter = 31 m ; $x =$ _____ ;

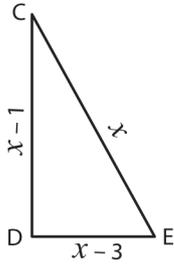EF = _____ ; FG = _____ ; EG = _____

8)
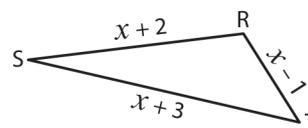
Perimeter = 16 cm ; $x =$ _____ ;

RS = _____ ; ST = _____ ; RT = _____

Missing Sides

Find the value of x and compute the length of the sides for each triangle.

1)
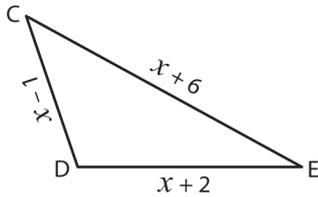
Perimeter = 25 cm ; $x =$ _____ ;

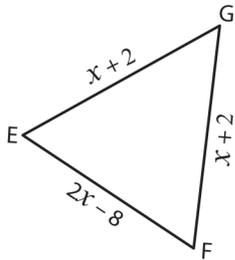CD = _____ ; DE = _____ ; CE = _____

2)
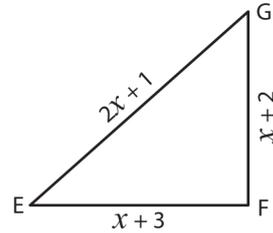
Perimeter = 34 mm ; $x =$ _____ ;

EG = _____ ; EF = _____ ; FG = _____

3)
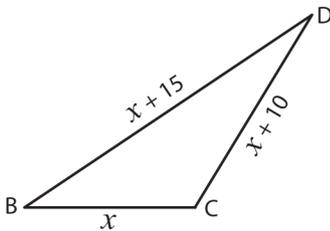
Perimeter = 85 m ; $x =$ _____ ;

BD = _____ ; BC = _____ ; CD = _____

4)
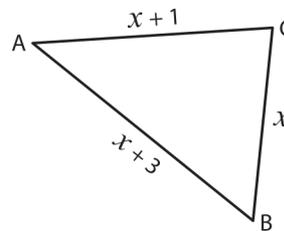
Perimeter = 43 cm ; $x =$ _____ ;

AB = _____ ; BC = _____ ; AC = _____

5)
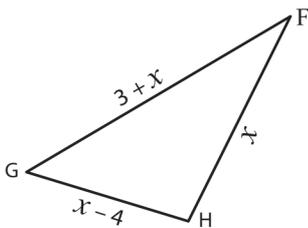
Perimeter = 32 mm ; $x =$ _____ ;

FG = _____ ; GH = _____ ; FH = _____

6)
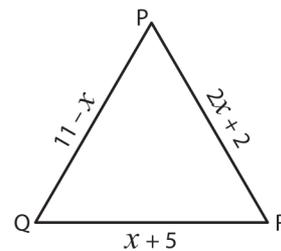
Perimeter = 24 m ; $x =$ _____ ;

PQ = _____ ; QR = _____ ; PR = _____
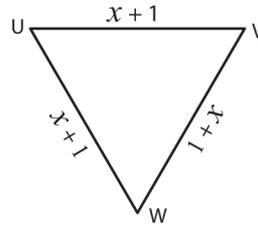
7)
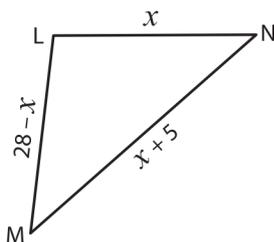
Perimeter = 47 cm ; $x =$ _____ ;
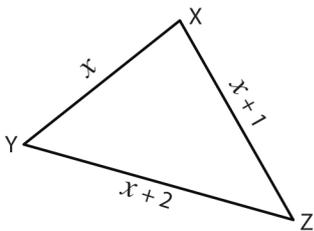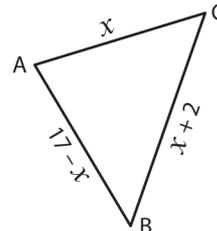
LM = _____ ; MN = _____ ; LN = _____

8)
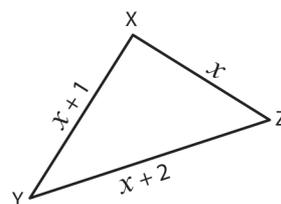
Perimeter = 12 mm ; $x =$ _____ ;
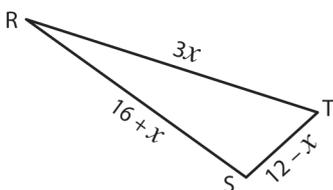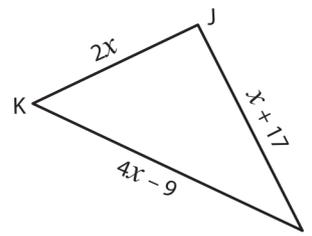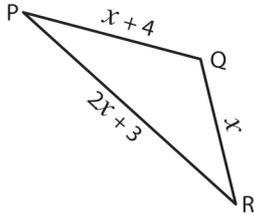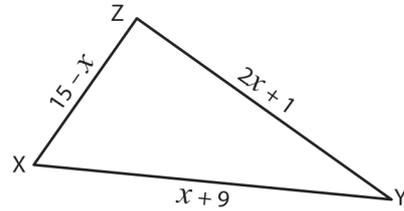
XY = _____ ; YZ = _____ ; XZ = _____

Missing Sides

Find the value of x and compute the length of the sides for each triangle.

1)

R

$x + 2$ $x - 1$

P

$5 + x$ Q
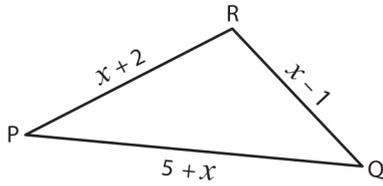
Perimeter = 36 m ; $x =$ _____ ;

PQ = _____ ; QR = _____ ; PR = _____

2)

B

$2x - 2$

$x + 2$ D

$x + 2$

C
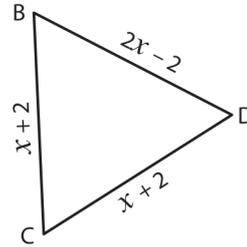
Perimeter = 18 mm ; $x =$ _____ ;

BC = _____ ; CD = _____ ; BD = _____

3)

$2x + 3$ C

A

$x + 5$ $3x$

B

Perimeter = 50 cm ; $x =$ _____ ;

AB = _____ ; BC = _____ ; AC = _____

4)

U

$x + 16$ $x + 16$

V   W

$3x + 1$

Perimeter = 103 m ; $x =$ _____ ;

UV = _____ ; VW = _____ ; UW = _____

5)

G

$x + 7$ $x + 4$

E

$x + 7$

F

Perimeter = 27 mm ; $x =$ _____ ;

FG = _____ ; EF = _____ ; EG = _____

6)

J

$x + 2$ $2x + 1$

K   L

x

Perimeter = 19 cm ; $x =$ _____ ;

JK = _____ ; KL = _____ ; JL = _____

7)

F

$x + 7$ $x + 8$

G

$x + 10$ H

Perimeter = 43 m ; $x =$ _____ ;

GH = _____ ; FH = _____ ; FG = _____

8)

X

x $x - 3$

Y   W

$2x - 5$

Perimeter = 52 mm ; $x =$ _____ ;

XY = _____ ; WY = _____ ; WX = _____

Missing Sides

Find the value of x and compute the length of the sides for each triangle.

1)

C, $x-1$, x, D, $x-3$, E

Perimeter = 11 mm ; $x =$ _____ ;

CD = _____ ; DE = _____ ; CE = _____

2)

R, $x+7$, $x+4$, P, $x+3$, Q
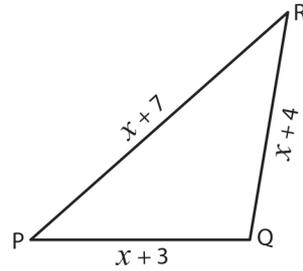
Perimeter = 50 m ; $x =$ _____ ;

PQ = _____ ; QR = _____ ; PR = _____

3)

G, $x+2$, E, $x+2$, $2x-8$, F

Perimeter = 32 cm ; $x =$ _____ ;

EF = _____ ; FG = _____ ; EG = _____

4)

$x+1$, U, V, $x+1$, $1+x$, W

Perimeter = 45 mm ; $x =$ _____ ;

UW = _____ ; VW = _____ ; UV = _____

5)

X, x, $x+1$, Y, $x+2$, Z

Perimeter = 36 m ; $x =$ _____ ;

YZ = _____ ; XZ = _____ ; XY = _____

6)

x, C, A, $17-x$, $x+2$, B

Perimeter = 27 cm ; $x =$ _____ ;

AB = _____ ; BC = _____ ; AC = _____

7)

R, $3x$, $16+x$, T, S, $12-x$

Perimeter = 55 mm ; $x =$ _____ ;

RT = _____ ; RS = _____ ; ST = _____

8)

J, $2x$, K, $x+17$, $4x-9$, L

Perimeter = 78 m ; $x =$ _____ ;

JK = _____ ; KL = _____ ; JL = _____

Missing Sides

Find the value of x and compute the length of the sides for each triangle.

1)

Perimeter = 47 m ; $x =$ _____ ;

PR = _____ ; QR = _____ ; PQ = _____

2)

Perimeter = 39 mm ; $x =$ _____ ;

XY = _____ ; YZ = _____ ; XZ = _____

3)
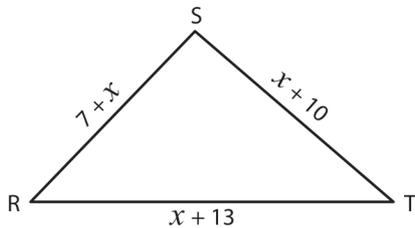
Perimeter = 78 cm ; $x =$ _____ ;

RT = _____ ;   ST = _____ ; RS = _____

4)
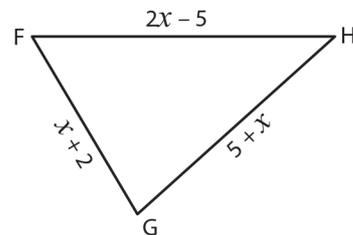
Perimeter = 54 m ; $x =$ _____ ;
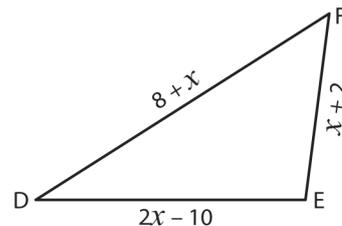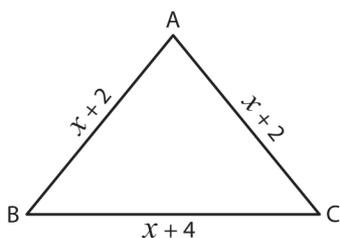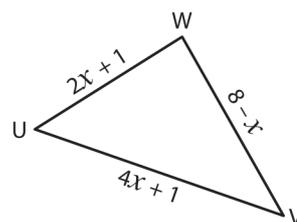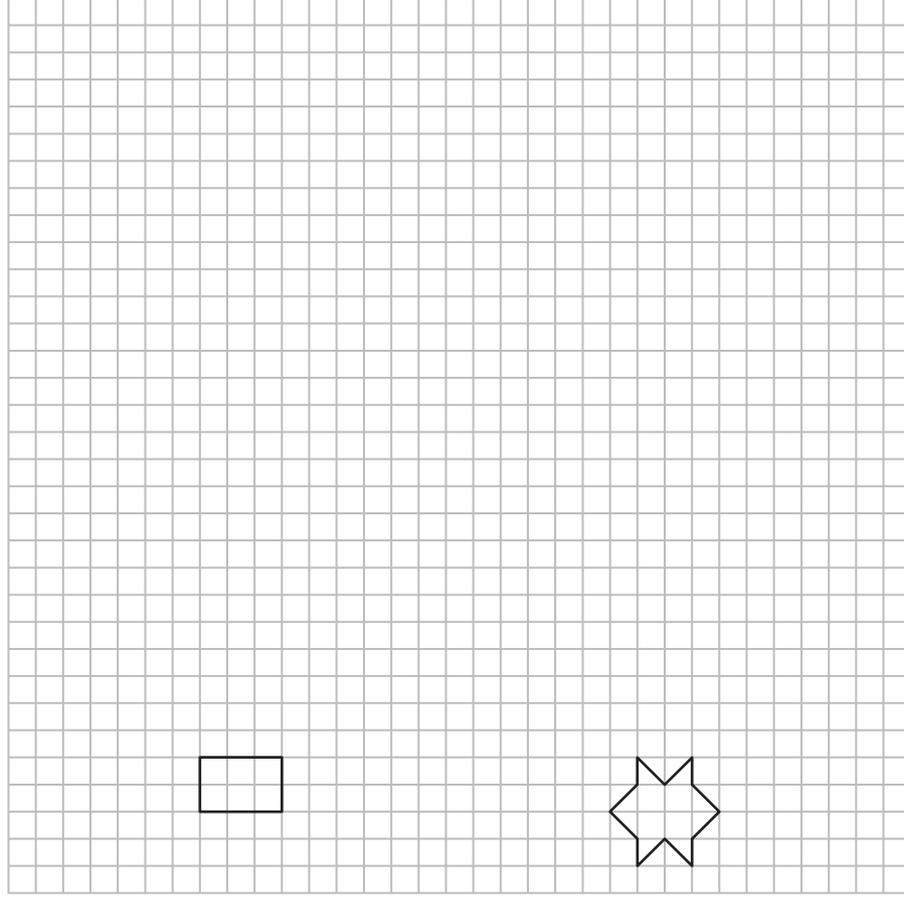
FG = _____ ; GH = _____ ; FH = _____

5)
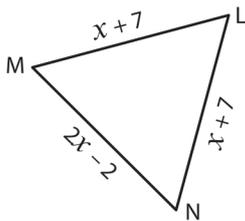
Perimeter = 48 mm ; $x =$ _____ ;

MN = _____ ; LN = _____ ; LM = _____

6)

Perimeter = 60 cm ; $x =$ _____ ;

DE = _____ ;   EF = _____ ; DF = _____

7)

Perimeter = 17 cm ; $x =$ _____ ;

BC = _____ ; AB = _____ ; AC = _____

8)

Perimeter = 20 mm ; $x =$ _____ ;

UV = _____ ; VW = _____ ; UW = _____

Name : _____

Enlarge / Reduce

Shapes: S1

1) Enlarge the shapes using the scale factor 1 : 2.

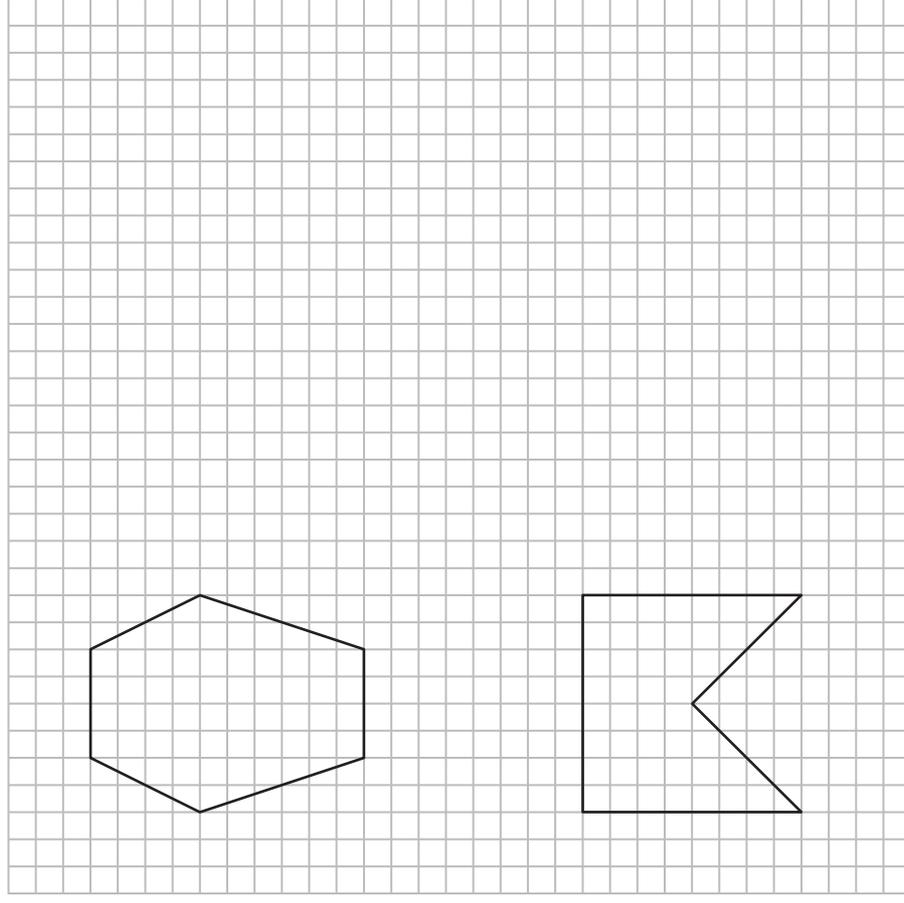2) Reduce the shapes using the scale factor 3 : 1.
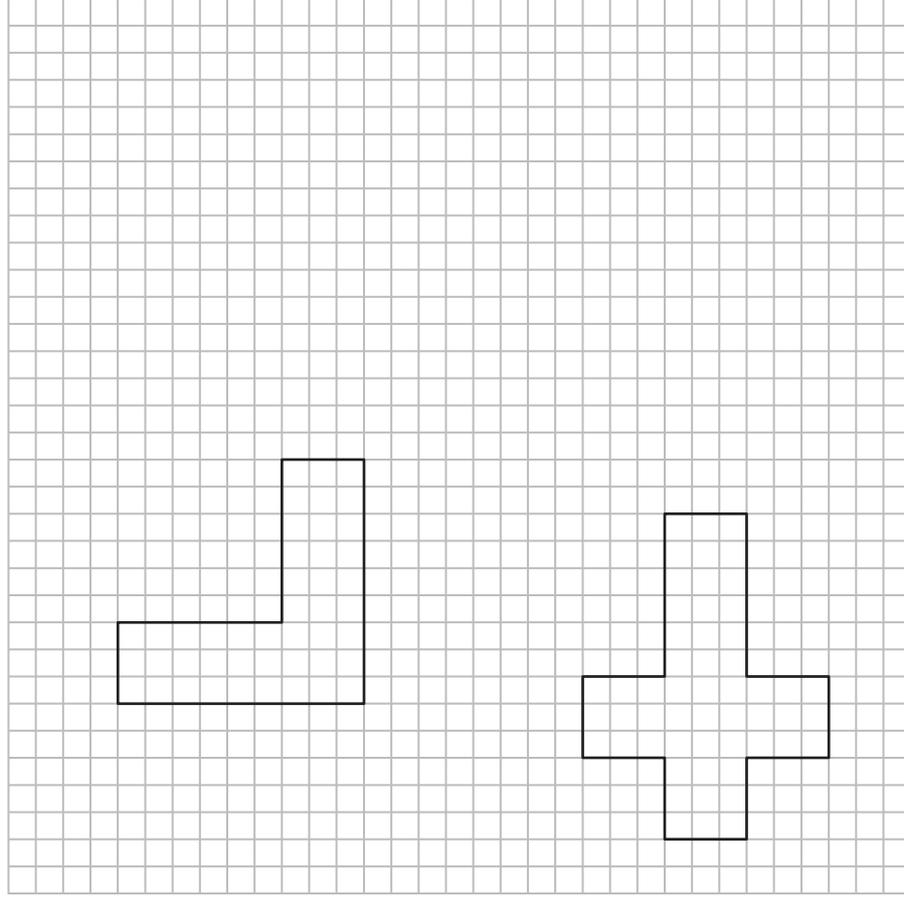
Shapes: S2

Enlarge / Reduce

1) Enlarge the shapes using the scale factor 1 : 4.
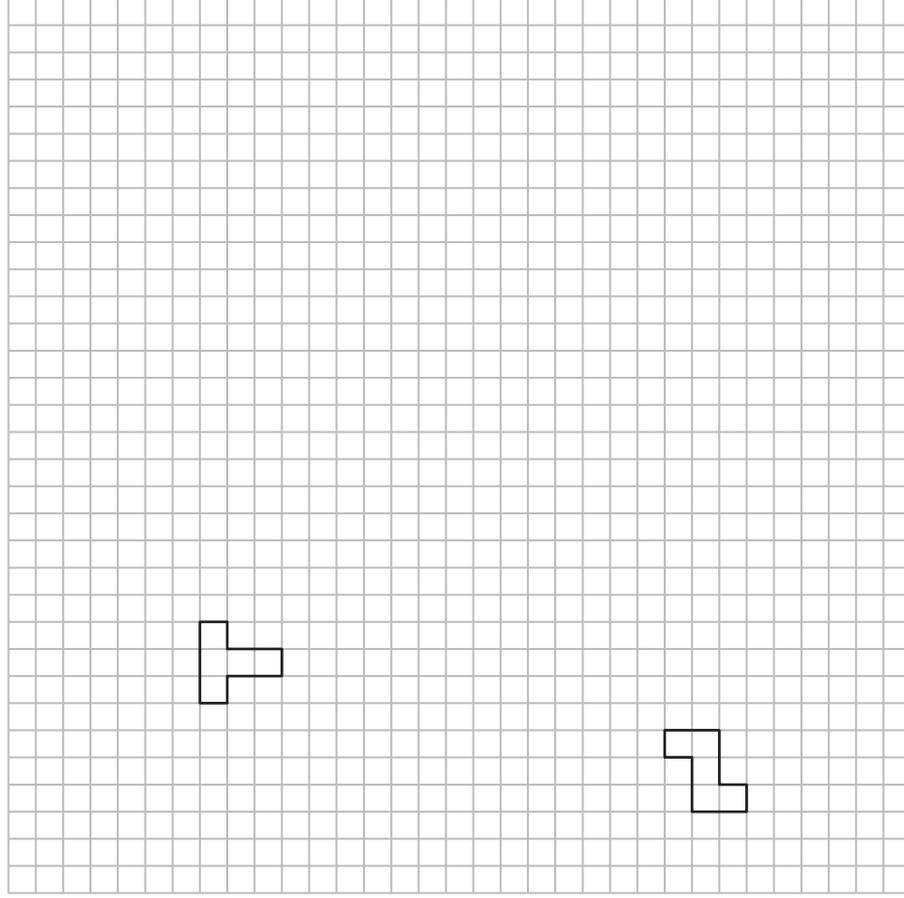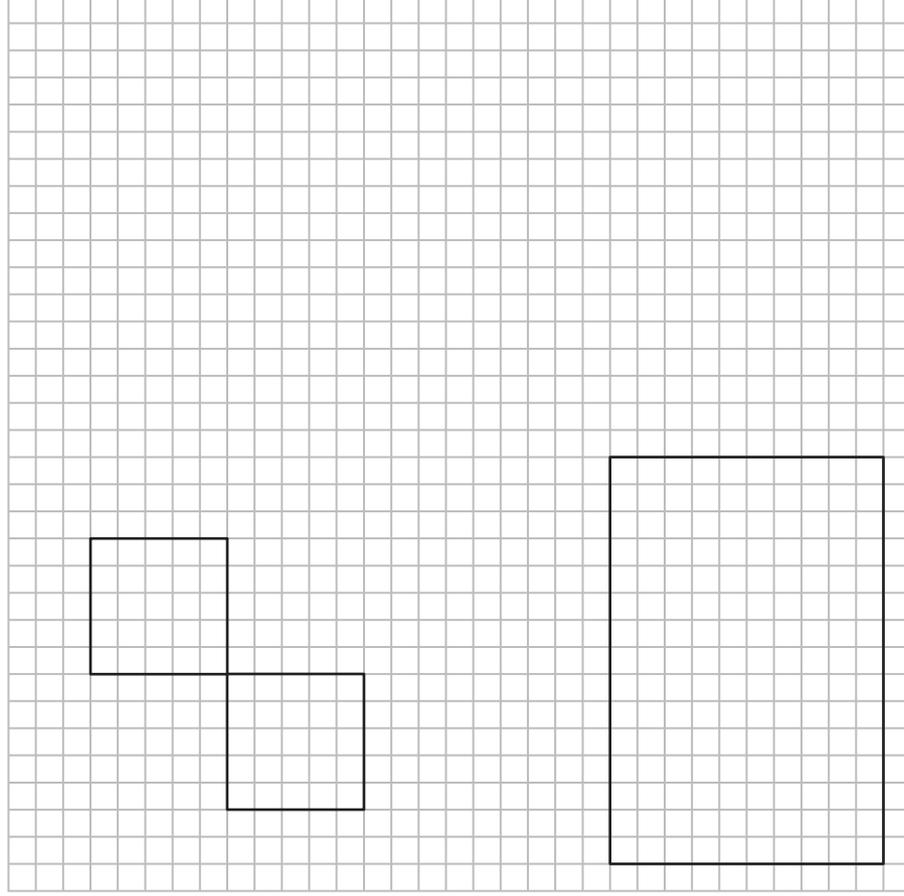
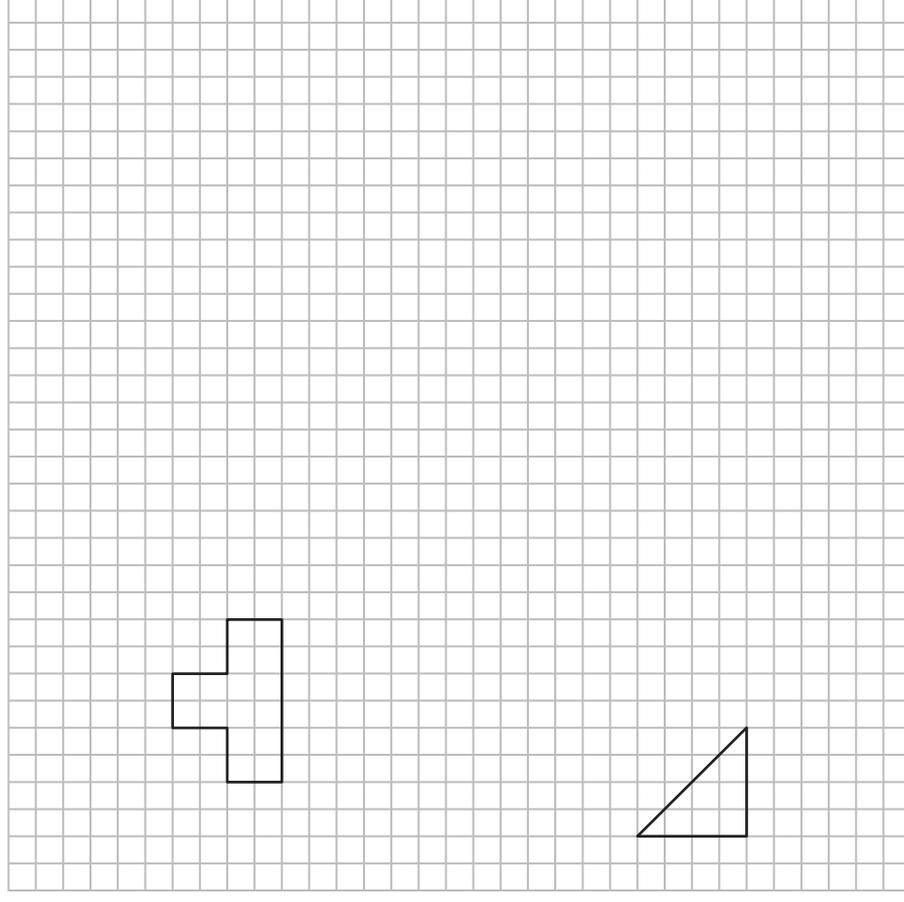2) Reduce the shapes using the scale factor 2 : 1.

Name : _____

Enlarge / Reduce

Shapes: S3

1) Reduce the shapes using the scale factor 5 : 1.
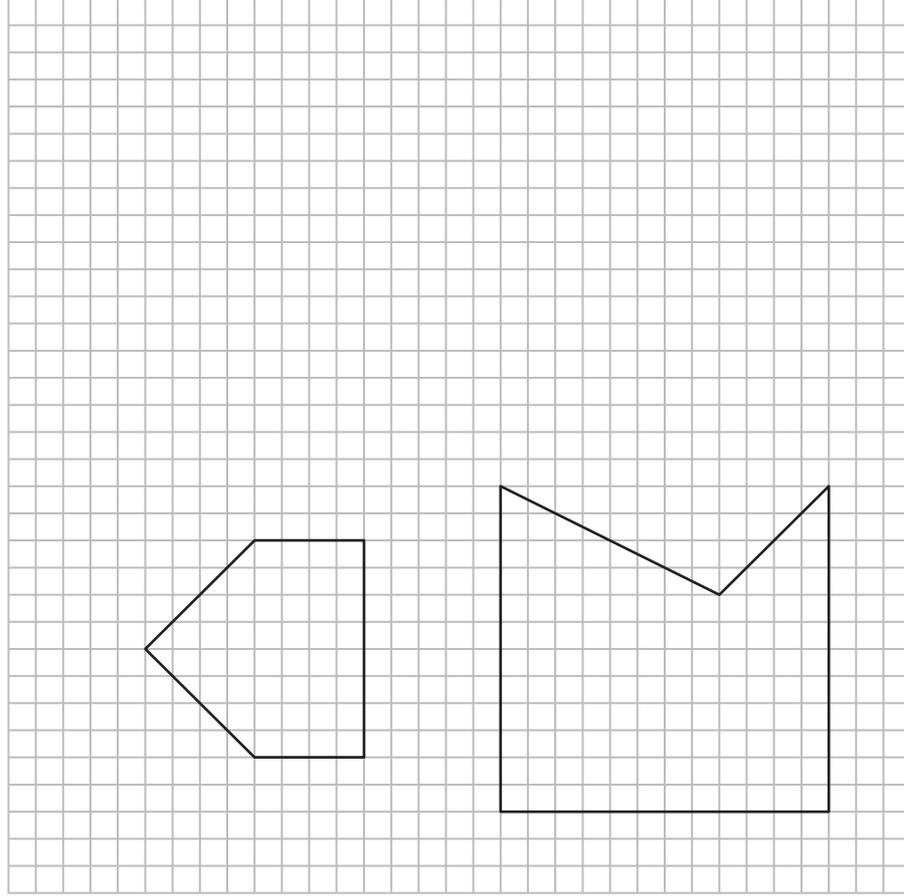
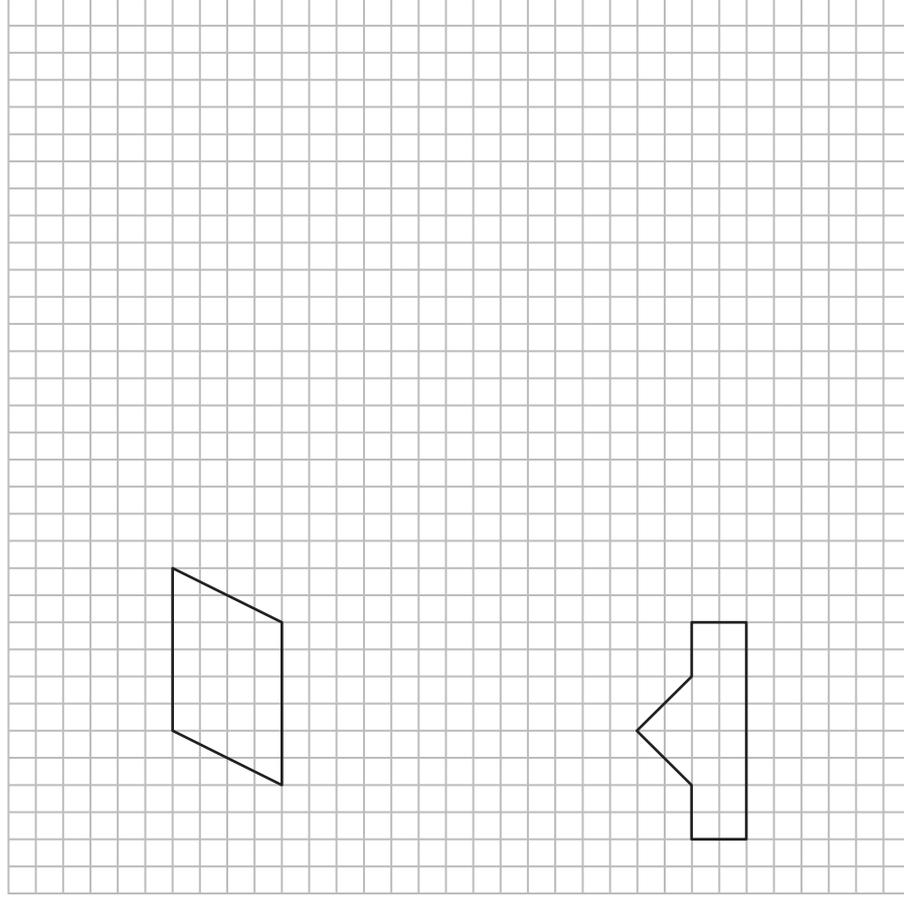2) Enlarge the shapes using the scale factor 1 : 3.

Name : _____

Enlarge / Reduce

Shapes: S4

1) Reduce the shapes using the scale factor 4 : 1.
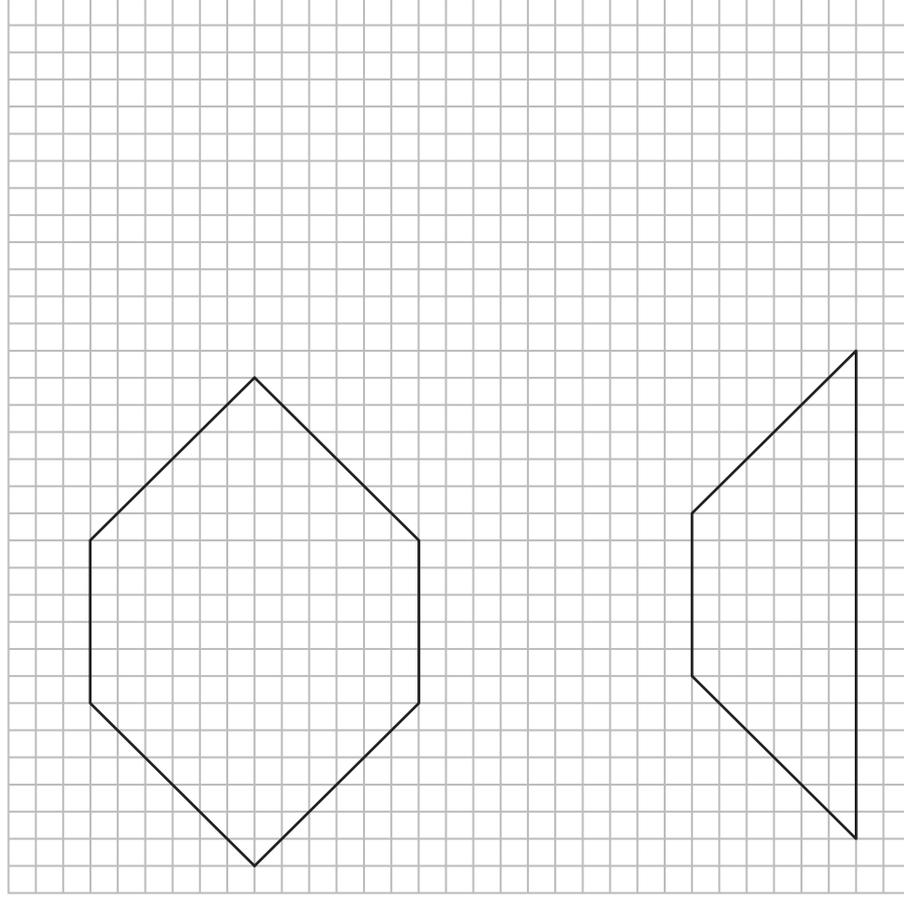
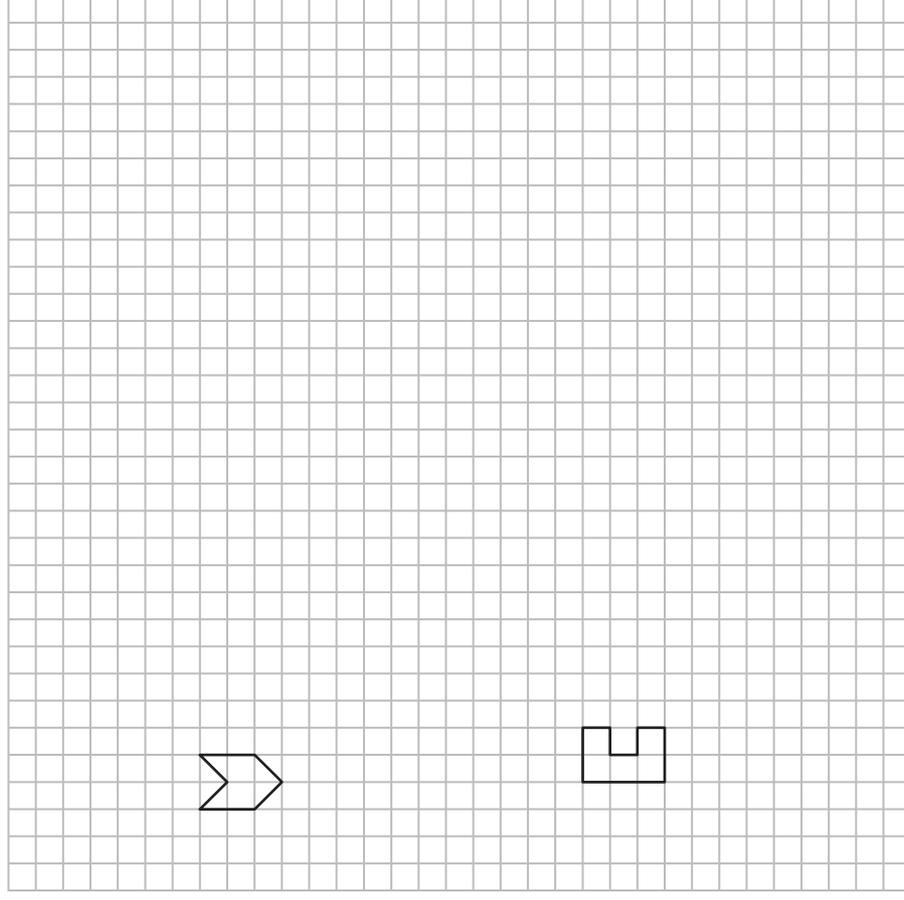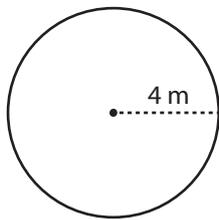2) Enlarge the shapes using the scale factor 0.5 : 1.

Name : _____

Enlarge / Reduce

Shapes: S5

1) Reduce the shapes using the scale factor 6 : 1.

2) Enlarge the shapes using the scale factor 1 : 5.

Name : _____

Circle - Area

Example :

Area of a circle = πr²

Radius (r) = 4 m

Area = πr²

        = π x 4 x 4

Area = **16π m²**

Find the area of each circle in terms of π.

1)
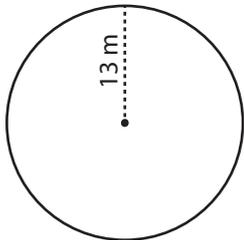
Area = [_____]

2)
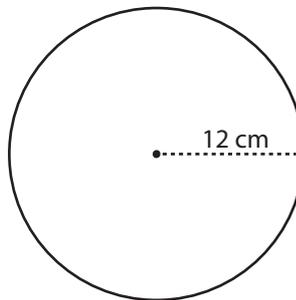
Area = [_____]

3)
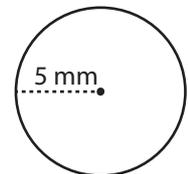
Area = [_____]

4)
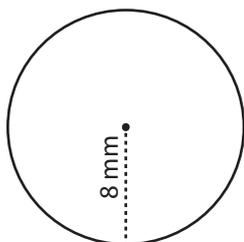
Area = [_____]

5)

Area = [_____]

6)
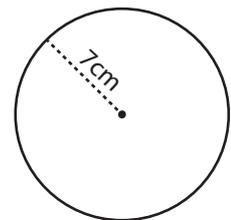
Area = [_____]

7)
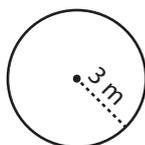
Area = [_____]

8)
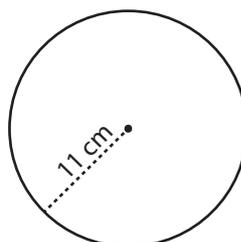
Area = [_____]

9)

Area = [_____]

Name : _____

Circle - Area

Example :

3 m

Area of a circle = πr²

Radius (r) = 3 m

Area = πr²

     = π x 3 x 3

Area = **9π m²**

Find the area of each circle in terms of π.

1)

14 cm

Area =

2)

9 m
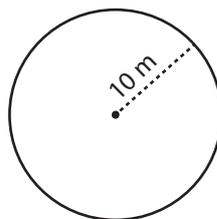
Area =

3)

11 mm

Area =

4)

18 mm

Area =

5)

6 cm

Area =

6)

15 m

Area =

7)

7 m

Area =

8)

10 mm

Area =

9)

17 cm

Area =

Circle - Area

Example :

6 m

Area of a circle = πr²

Radius (r) = 6 m

Area = πr²

= π x 6 x 6

Area = **36π m²**

Find the area of each circle in terms of π.

1)

14 mm

Area = ⟨_____⟩

2)

12 cm

Area = ⟨_____⟩

3)

17 m

Area = ⟨_____⟩

4)

16 m

Area = ⟨_____⟩

5)

20 mm

Area = ⟨_____⟩

6)

5 cm

Area = ⟨_____⟩

7)

13 cm

Area = ⟨_____⟩

8)

8 m

Area = ⟨_____⟩

9)

19 mm

Area = ⟨_____⟩

Perimeter and Area

1) The perimeters of regular figures Y and Z are 7 cm and 14 cm respectively. If the area of figure Z is 40 cm² , find the area of figure Y.

   _____

2) Parallelograms C and D are similar. The areas of C and D are 75.6 mm² and 52.5 mm² respectively. What will be the perimeter of D, if the perimeter of C is 36 mm?

   _____

3) The perimeters of two similar triangles are 67.5 m and 54 m. Find the area of the larger triangle, if the area of the smaller triangle is 120 m² .

   _____

4) G and H are similar octagons. The areas of G and H are 81 cm² and 144 cm² respectively. Determine the perimeter of G, if the perimeter of H is 108 cm.

   _____

5) The perimeters of two similar figures are 25.6 m and 66.4 m. Find the area of each figure, if the sum of their areas is 712.17 m² .

   _____

6) The areas of two similar kites are 16 mm² and 64 mm² . If the sum of their perimeters is 5.4 mm, find the perimeter of each kite.

   _____

Perimeter and Area

1) M and N are similar rhombuses. The areas of M and N are 75 mm² and 243 mm² respectively. What will be the perimeter of M, if the perimeter of N is 54 mm?

_____

2) The perimeters of similar trapezoids V and W are 46.8 m and 63 m respectively. If the area of trapezoid W is 122.5 m², find the area of trapezoid V.

_____

3) Q and R are similar right angled triangles. The areas of Q and R are 9 cm² and 49 cm² respectively. Find the perimeter of Q, if the perimeter of R is 98.7 cm.

_____

4) Two figures are similar and their perimeters are 20 mm and 80 mm. If the area of the larger figure is 216 mm², determine the area of the smaller figure.

_____

5) The areas of two regular pentagons are 43.56 cm² and 4.84 cm². What is the perimeter of each pentagon, if the sum of their perimeters is 18.4 cm?

_____

6) The perimeters of two similar quadrilaterals are 15 m and 19.5 m. Find the area of each quadrilateral, if the sum of their areas is 10.76 m².

_____

Name : _____

Perimeter and Area

1) The perimeter and the area of hexagon U are 4 m and 2 m² respectively. The perimeter of hexagon V is 32 m. If the given two hexagons are similar, find the area of hexagon V.

   _____

2) The perimeters of similar isosceles triangles D and E are 64 cm and 72 cm respectively. Find the area of E, if the area of D is 128 cm².

   _____

3) X and Y are regular figures. The areas of X and Y are 96 mm² and 150 mm² respectively. Determine the perimeter of Y, if the perimeter of X is 16.4 mm.

   _____

4) The areas of two similar rectangles are 125 m² and 245 m². Find the perimeter of the larger rectangle, if the perimeter of the smaller rectangle is 100 m.

   _____

5) The perimeters of two similar decagons are 46.2 mm and 130.2 mm. If the sum of their areas is 216.4 mm², what will be the area of each decagon?

   _____

6) The sum of perimeters of two equilateral triangles is 35 cm. Determine the perimeter of each triangle, if the areas of triangles are 45 cm² and 80 cm².

   _____

Name : _____

Surface Area - Counting Squares

Find the surface area of each rectangular prism.

☐ = 1 cm²

1)

Surface Area = _____

2)

Surface Area = _____

3)

Surface Area = _____

4)

Surface Area = _____

5)

Surface Area = _____

6)

Surface Area = _____

7)

Surface Area = _____

8)

Surface Area = _____

9)
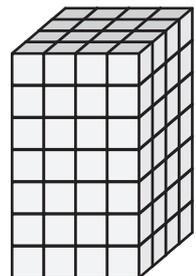
Surface Area = _____

Name : _____

Surface Area - Counting Squares

Find the surface area of each rectangular prism.

▢ = 1 mm²

1)
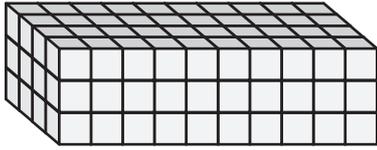
Surface Area = _____

2)
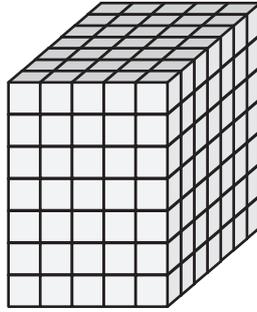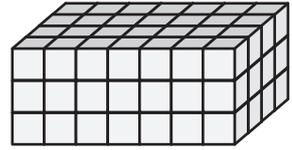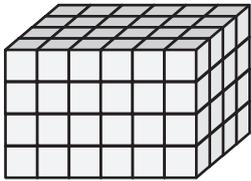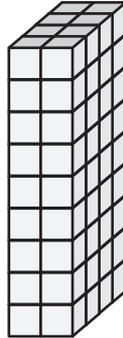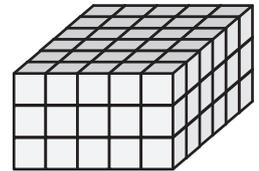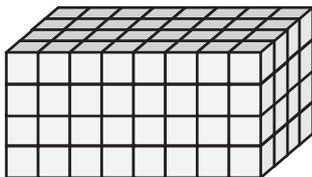
Surface Area = _____

3)

Surface Area = _____

4)

Surface Area = _____

5)

Surface Area = _____

6)

Surface Area = _____

7)

Surface Area = _____

8)

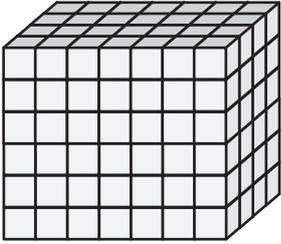Surface Area = _____

9)
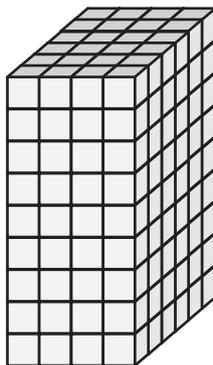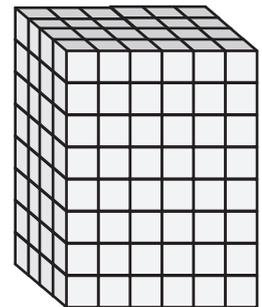
Surface Area = _____

Name : _____

Surface Area - Counting Squares
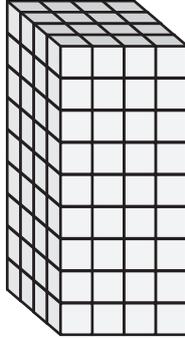
Find the surface area of each rectangular prism.

☐ = 1 m²

1)
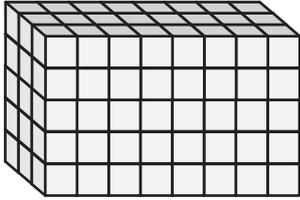
Surface Area = _____

2)
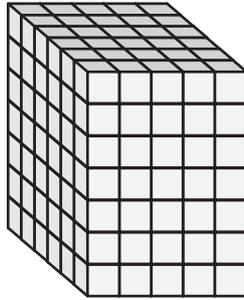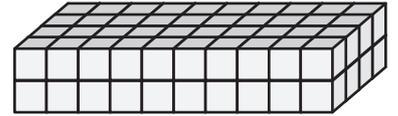
Surface Area = _____

3)

Surface Area = _____

4)

Surface Area = _____

5)

Surface Area = _____

6)

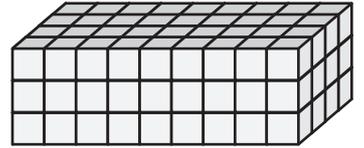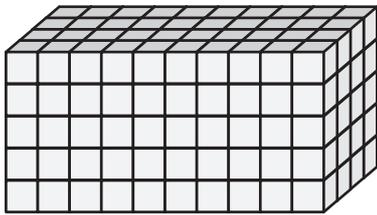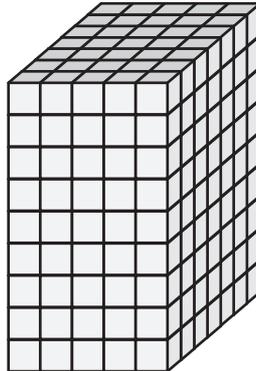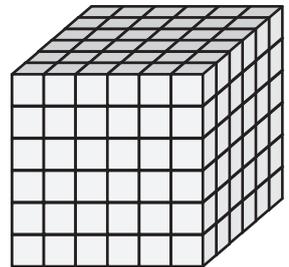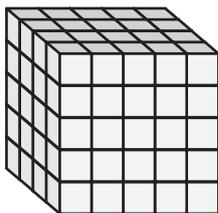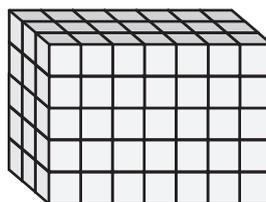Surface Area = _____

7)

Surface Area = _____

8)

Surface Area = _____

9)
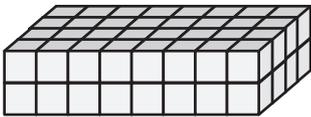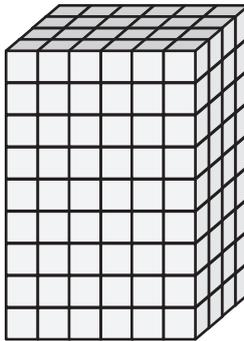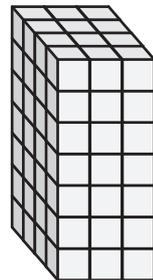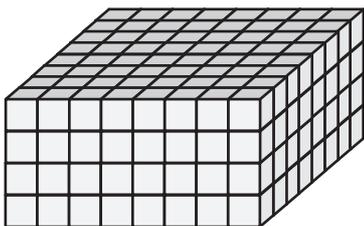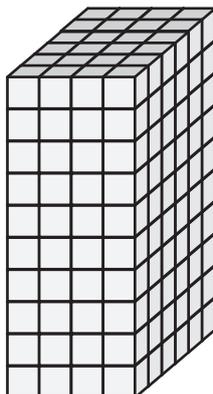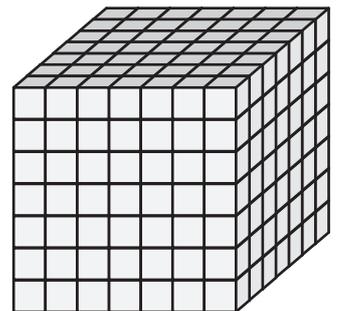
Surface Area = _____

Name : _____

Complementary Angles

A) Find the complement of each angle.

1) 63^0

    Complement of 63^0 = _____

2) 38^0

    Complement of 38^0 = _____

3) 87^0

    Complement of 87^0 = _____

4) 71^0

    Complement of 71^0 = _____

5) 9^0

    Complement of 9^0 = _____

6) 50^0

    Complement of 50^0 = _____

B) State whether the given pairs are complementary or not.

1) $36^0, 54^0$

    _____

2) $46^0, 45^0$

    _____

3) $79^0, 17^0$

    _____

4) $23^0, 67^0$

    _____

5) $5^0, 85^0$

    _____

6) $52^0, 30^0$

    _____

C) 1) If $\angle 1$ and $\angle 2$ are complementary angles, and m$\angle 1 = 74^0$; find m$\angle 2$.

    _____

2) If $\angle 5$ and $\angle 6$ are complementary angles, and m$\angle 6 = 6^0$; find m$\angle 5$.

    _____

3) If $\angle 8$ and $\angle 9$ are complementary angles, and m$\angle 9 = 11^0$; find m$\angle 8$.

    _____

Name : _____

Complementary Angles

A) Find the complement of each angle.

1) 48^0

Complement of 48^0 = _____

2) 73^0

Complement of 73^0 = _____

3) 26^0

Complement of 26^0 = _____

4) 65^0

Complement of 65^0 = _____

5) 51^0

Complement of 51^0 = _____

6) 19^0

Complement of 19^0 = _____

B) State whether the given pairs are complementary or not.

1) $89^0, 4^0$

_____

2) $20^0, 70^0$

_____

3) $32^0, 58^0$

_____

4) $75^0, 14^0$

_____

5) $66^0, 29^0$

_____

6) $43^0, 47^0$

_____

C) 1) If $\angle 3$ and $\angle 4$ are complementary angles, and m$\angle 4 = 30^0$; find m$\angle 3$.

_____

2) If $\angle 7$ and $\angle 8$ are complementary angles, and m$\angle 8 = 61^0$; find m$\angle 7$.

_____

3) If $\angle 1$ and $\angle 2$ are complementary angles, and m$\angle 1 = 37^0$; find m$\angle 2$.

_____

Complementary Angles

A)   Find the complement of each angle.

1) 10^0

Complement of 10^0 = _____

2) 55^0

Complement of 55^0 = _____

3) 33^0

Complement of 33^0 = _____

4) 41^0

Complement of 41^0 = _____

5) 86^0

Complement of 86^0 = _____

6) 22^0

Complement of 22^0 = _____

B)   State whether the given pairs are complementary or not.

1) $13^0, 77^0$

_____

2) $69^0, 21^0$

_____

3) $42^0, 40^0$

_____

4) $56^0, 35^0$

_____

5) $37^0, 53^0$

_____

6) $8^0, 84^0$

_____

C) 1) If $\angle 6$ and $\angle 7$ are complementary angles, and m$\angle 6 = 88^0$; find m$\angle 7$.

_____

2) If $\angle 8$ and $\angle 9$ are complementary angles, and m$\angle 9 = 15^0$; find m$\angle 8$.

_____

3) If $\angle 4$ and $\angle 5$ are complementary angles, and m$\angle 4 = 44^0$; find m$\angle 5$.

_____

Name : _____

Mean Absolute Deviation

1) Find the mean absolute deviation for the data sets A and B. Round your answers to two decimal places and compare them.

A	23	49	58	72	81	89	90
B	25	46	54	61	70	79	85

Mean Absolute Deviation for A = _____

Mean Absolute Deviation for B = _____

Mean Absolute Deviation for A [   ] Mean Absolute Deviation for B

2) The table compares the points scored by two basketball teams in 6 games. What is the mean absolute deviation for each set of the data? Round your answers to two decimal places and compare them.

Point table					
Team A			Team B		
42	54	54	55	15	82
50	57	58	65	44	99

Mean Absolute Deviation for Team A = _____

Mean Absolute Deviation for Team B = _____

Mean Absolute Deviation for Team A [   ] Mean Absolute Deviation for Team B

3) The table below shows the number of prizes won by the students of seven schools in an interschool competition. Find the mean absolute deviation of the given data set. Round your answer to two decimal places. Also interpret how the mean absolute deviation will change, if the value of 65 is removed.

Mean Absolute Deviation with '65' = _____

Mean Absolute Deviation without '65' = _____

Prizes won by the students						
15	22	12	73	44	56	65

Mean Absolute Deviation with '65' [   ] Mean Absolute Deviation without '65'

_____

Name : _____

Mean Absolute Deviation

1) Find the mean absolute deviation for the data sets A and B. Round your answers to two decimal places and compare them.

| A | 33 | 54 | 60 | 71 | 83 | 95 |
| B | 16 | 25 | 49 | 51 | 67 | 80 |

Mean Absolute Deviation for A = _____

Mean Absolute Deviation for B = _____

Mean Absolute Deviation for A [   ] Mean Absolute Deviation for B

2) The table below shows the net worth of four billionaires each in Asia and Europe as reported by a magazine in 2018. Find the mean absolute deviation for each set of the data provided. Round your answers to two decimal places.

Net worth of billionaires (billions of dollars)							
Asia (A)				Europe (E)			
51.1	48.6	37.7	35	61.5	37.4	33	32.1

Mean Absolute Deviation for A = _____

Mean Absolute Deviation for E = _____

Mean Absolute Deviation for A [   ] Mean Absolute Deviation for E

3) The gender ratio table below represents the number of men for every 100 women in seven cities. What is the mean absolute deviation of the following data set, both with and without the data value of 103.2? Round your answers to two decimal places. Explain how the inclusion affects the mean absolute deviation.

Mean Absolute Deviation with '103.2' = _____

Mean Absolute Deviation without '103.2' = _____

| Gender ratio (number of men to 100 women) | | | | | | |
| 109.5 | 105.8 | 104.2 | 103.7 | 103.2 | 102.8 | 101.6 |

Mean Absolute Deviation with '103.2' [   ] Mean Absolute Deviation without '103.2'

_____

Name : _____

Mean Absolute Deviation

1) Find the mean absolute deviation for the data sets A and B. Round your answers to two decimal places and compare them.

A	31	45	58	62	86	90	97
B	30	32	40	56	64	78	92

Mean Absolute Deviation for A = _____

Mean Absolute Deviation for B = _____

Mean Absolute Deviation for A [   ] Mean Absolute Deviation for B

2) The table below provides a comparative insight into the tallest trees in America and Australia in terms of their height. Calculate the mean absolute deviation of each of the data sets and round your answers to two decimal places.

Tallest Trees (ft)					
America (A)			Australia (B)		
380.1	379.8	378	327.5	299.5	298
376.3	375.1	371.2	288	282	281.6

Mean Absolute Deviation for A = _____

Mean Absolute Deviation for B = _____

Mean Absolute Deviation for A [   ] Mean Absolute Deviation for B

3) The weather averages of New York city during the period from October to February are summarized in the table below. Calculate the mean absolute deviation of the following data set. What will the mean absolute deviation be, if 39 is added to the table as the average temperature of March? Write a few sentences comparing the two mean absolute deviations.

Mean Absolute Deviation without '39' = _____

Mean Absolute Deviation with '39' = _____

Oct - Feb weather averages (in ^{0} Fahrenheit)				
57	48	48	36	36

Mean Absolute Deviation with '39' [   ] Mean Absolute Deviation without '39'

Name : _____

Area of a Rectangle

A)   Find the area of each rectangle for the given measurements.

1)   length = 0.13 m, width = 9 cm

Area = _____ cm²

2)   width = 1800 cm, length = 23 m
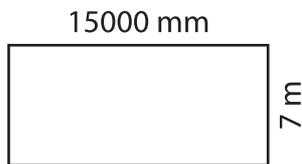
Area = _____ m²

3)   width = 5 mm, length = 0.9 cm

Area = _____ mm²
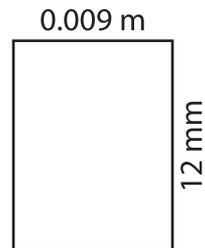
4)   length = 410 mm, width = 24 cm

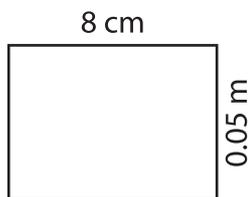Area = _____ cm²

B)   Find the area of each rectangle.

5)

15000 mm

7 m

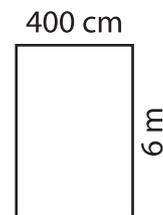Area = _____ m²

6)

0.009 m

12 mm

Area = _____ mm²

7)

8 cm

0.05 m

Area = _____ cm²

8)

400 cm

6 m

Area = _____ m²

9) The length and width of a rectangle are 0.026 m and 18 mm respectively. Determine the area of the rectangle.

_____ mm²

Name : _____

Area of a Rectangle

A)   Find the area of each rectangle for the given measurements.

1)   width = 6 mm, length = 1.2 cm

Area = _____ mm²

2)   length = 34 cm, width = 290 mm

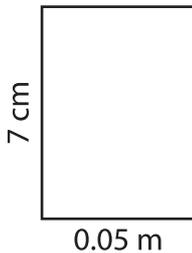Area = _____ cm²

3)   length = 2800 cm, width = 15 m

Area = _____ m²

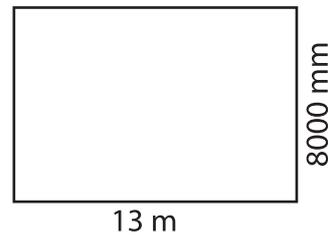4)   width = 9 mm, length = 0.01 m

Area = _____ mm²

B)   Find the area of each rectangle.
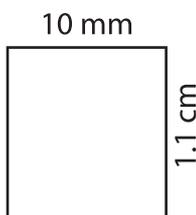
5)

7 cm

0.05 m

Area = _____ cm²
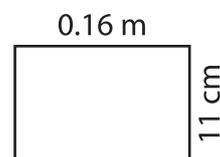
6)

8000 mm

13 m

Area = _____ m²

7)

10 mm

1.1 cm

Area = _____ mm²

8)

0.16 m

11 cm

Area = _____ cm²

9) What is the area of the rectangle PQRS, if PQ = 8 m and QR = 4000 mm?

_____ m²

Name : _____

Area of a Rectangle

A) Find the area of each rectangle for the given measurements.

1) length = 3000 cm, width = 27 m

Area = _____ m²

2) width = 9 mm, length = 1.1 cm

Area = _____ mm²
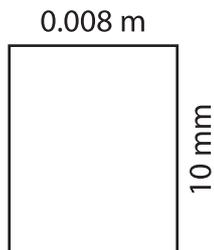
3) width = 120 mm, length = 16 cm

Area = _____ cm²

4) length = 3600 cm, width = 25 m

Area = _____ m²

B) Find the area of each rectangle.

5)

0.008 m

10 mm

Area = _____ mm²

6)

20 cm

0.31 m

Area = _____ cm²

7)

12 m

7000 mm

Area = _____ m²

8)

6 mm

0.9 cm

Area = _____ mm²

9) Determine the area of the rectangle, if the width and the length are 130 mm and 17 cm respectively.

_____ cm²

Name : _____

Area of a Rectangle

A)   Find the area of each rectangle for the given measurements.

1)   width = 7 cm, length = 0.14 m

Area = _____ cm²

2)   length = 8 m, width = 6000 mm

Area = _____ m²

3)   length = 0.033 m, width = 21 mm

Area = _____ mm²

4)   width = 130 mm, length = 19 cm

Area = _____ cm²

B)   Find the area of each rectangle.

5)

1600 cm

10 m

Area = _____ m²

6)

1.5 cm

22 mm

Area = _____ mm²

7)

0.09 m

4 cm

Area = _____ cm²

8)

11 m

8000 mm

Area = _____ m²

9) ABCD is a rectangle with AB = 0.01 m and BC = 7 mm. Find the area.

_____ mm²

Name : _____

Area of a Rectangle

A)   Find the area of each rectangle for the given measurements.

1)   length = 31 mm, width = 0.028 m

Area = _____ mm²

2)   width = 10 cm, length = 190 mm

Area = _____ cm²

3)   width = 6000 mm, length = 7 m

Area = _____ m²
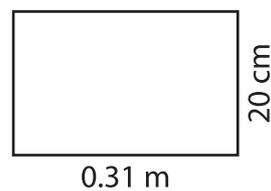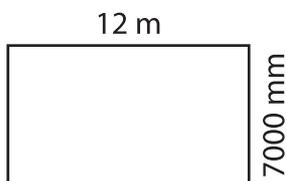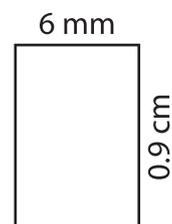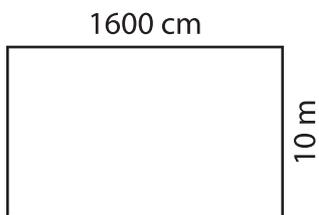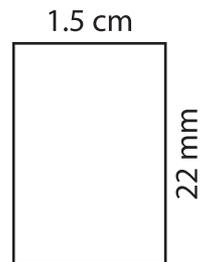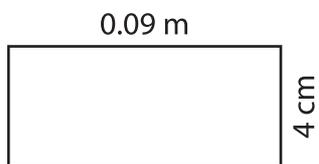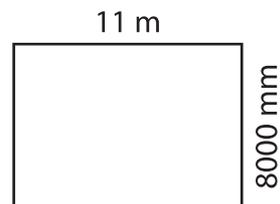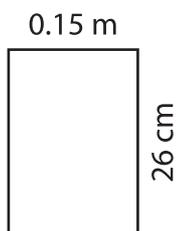
4)   length = 0.9 cm, width = 8 mm

Area = _____ mm²

B)   Find the area of each rectangle.
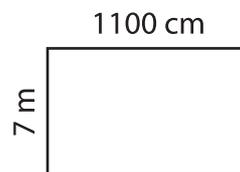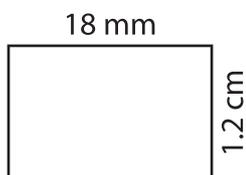
5)

0.15 m

26 cm

Area = _____ cm²

6)

1100 cm

7 m

Area = _____ m²

7)

18 mm

1.2 cm

Area = _____ mm²

8)

27 cm

200 mm
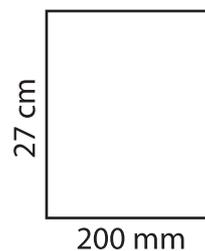
Area = _____ cm²

9) What is the area of the rectangle UVWX, if UV = 12 m and VW = 3000 mm?

_____ m²

Name : _____

Equivalent Ratio

A) Write any two equivalent ratios for each ratio.

1) 1 : 2

2) 4 : 9

3) 5 : 3

4) 7 : 10

5) 8 : 11

6) 12 : 13

7) 9 : 20

8) 17 : 5

B) Complete the equivalent ratio table.

1)

7	21	35	
3			27

2)

5		25	35
9	18		

3)

10	20	50	70
13			

4)

11	22		
2		8	16

Equivalent Ratio

A) Write any two equivalent ratios for each ratio.

1) 4 : 5

_____

2) 9 : 2

_____

3) 13 : 6

_____

4) 20 : 7

_____

5) 8 : 9

_____

6) 15 : 11

_____

7) 3 : 4

_____

8) 9 : 10

_____

B) Complete the equivalent ratio table.

1)

2	4		
7		35	49

2)

14		70	
9	27		54

3)

5	10	15	
18			72

4)

3			
20	40	60	80

Equivalent Ratio

A) Write any two equivalent ratios for each ratio.

1) 11 : 3

2) 2 : 5

3) 8 : 7

4) 13 : 10

5) 6 : 5

6) 7 : 9

7) 4 : 7

8) 18 : 11

B) Complete the equivalent ratio table.

1)

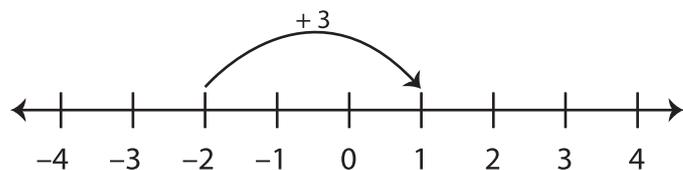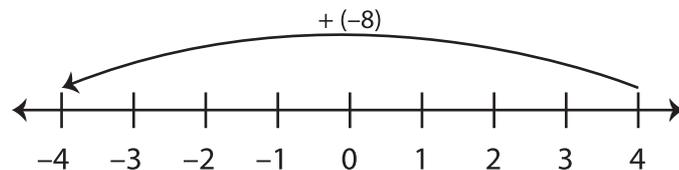| 4	12		20
13		52	

2)

7	28	42	
6			54

3)

16			96
15	45	75	

4)

11		33	
12	24		60

Number Line - Adding Integers

Example 1: −2 + 3 = **1**

+ 3

−4 −3 −2 −1 0 1 2 3 4

Example 2: 4 + (−8) = **−4**

+ (−8)

−4 −3 −2 −1 0 1 2 3 4

Use the number line to find the sum.

1)   4 + (−5) = _____

−9 −8 −7 −6 −5 −4 −3 −2 −1 0 1 2 3 4 5 6 7 8 9

2)   −7 + 2 = _____

−9 −8 −7 −6 −5 −4 −3 −2 −1 0 1 2 3 4 5 6 7 8 9

3)   −3 + (−4) = _____

−9 −8 −7 −6 −5 −4 −3 −2 −1 0 1 2 3 4 5 6 7 8 9

4)   1 + 7 = _____

−9 −8 −7 −6 −5 −4 −3 −2 −1 0 1 2 3 4 5 6 7 8 9

5)   3 + (−12) = _____

−9 −8 −7 −6 −5 −4 −3 −2 −1 0 1 2 3 4 5 6 7 8 9

Number Line - Adding Integers

Example 1: $-1 + (-3) = $ **–4**

$+ (-3)$

$$-4 \quad -3 \quad -2 \quad -1 \quad 0 \quad 1 \quad 2 \quad 3 \quad 4$$

Example 2: $1 + 2 = $ **3**

$+ 2$

$$-4 \quad -3 \quad -2 \quad -1 \quad 0 \quad 1 \quad 2 \quad 3 \quad 4$$

Use the number line to find the sum.

1) $3 + 6 = $ _____

$$-9 \quad -8 \quad -7 \quad -6 \quad -5 \quad -4 \quad -3 \quad -2 \quad -1 \quad 0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9$$

2) $-2 + (-1) = $ _____

$$-9 \quad -8 \quad -7 \quad -6 \quad -5 \quad -4 \quad -3 \quad -2 \quad -1 \quad 0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9$$

3) $-8 + 10 = $ _____

$$-9 \quad -8 \quad -7 \quad -6 \quad -5 \quad -4 \quad -3 \quad -2 \quad -1 \quad 0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9$$

4) $7 + (-7) = $ _____

$$-9 \quad -8 \quad -7 \quad -6 \quad -5 \quad -4 \quad -3 \quad -2 \quad -1 \quad 0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9$$

5) $5 + 3 = $ _____

$$-9 \quad -8 \quad -7 \quad -6 \quad -5 \quad -4 \quad -3 \quad -2 \quad -1 \quad 0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9$$

Number Line - Adding Integers

Example 1: $3 + (-5) = -2$

$+ (-5)$

←———|———|———|———|———|———|———|———|———→
−4   −3   −2   −1   0   1   2   3   4

Example 2: $-4 + 7 = 3$

$+ 7$

←———|———|———|———|———|———|———|———|———→
−4   −3   −2   −1   0   1   2   3   4

Use the number line to find the sum.

1) $0 + (-8) =$ _____

←—|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|—→
−9 −8 −7 −6 −5 −4 −3 −2 −1   0   1   2   3   4   5   6   7   8   9

2) $5 + 4 =$ _____

←—|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|—→
−9 −8 −7 −6 −5 −4 −3 −2 −1   0   1   2   3   4   5   6   7   8   9

3) $7 + (-9) =$ _____

←—|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|—→
−9 −8 −7 −6 −5 −4 −3 −2 −1   0   1   2   3   4   5   6   7   8   9

4) $-6 + 11 =$ _____

←—|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|—→
−9 −8 −7 −6 −5 −4 −3 −2 −1   0   1   2   3   4   5   6   7   8   9

5) $-1 + (-6) =$ _____

←—|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|———|—→
−9 −8 −7 −6 −5 −4 −3 −2 −1   0   1   2   3   4   5   6   7   8   9

Name : _____

Fractions: S1

Solve.

1) $4 + \left(\dfrac{1}{2}\right)^3 \times 32$

Ans = _____

2) $\dfrac{2}{3} + 3^3 - \dfrac{5}{6} \times 18$

Ans = _____

3) $9 - \dfrac{4}{3} \div \left(\dfrac{1}{2}\right)^{-2} + 10$

Ans = _____

4) $5^2 + \dfrac{7}{2} + 15 \times \dfrac{1}{3}$

Ans = _____

5) $73 - 5^3 \div \dfrac{5}{2}$

Ans = _____

6) $11 \div \left(\dfrac{1}{2}\right)^4 - 24$

Ans = _____

7) $86 \times \dfrac{1}{2} - 2^5 \div \dfrac{4}{5}$

Ans = _____

8) $7^2 + \dfrac{4}{3} \times \dfrac{3}{2}$

Ans = _____

9) $14 + 5 \times \left(\dfrac{1}{5}\right)^2 - 13$

Ans = _____

10) $5 \times 8^2 \div \dfrac{4}{3}$

Ans = _____

Name : _____

Solve.

1) $7 + \dfrac{3}{2} \div \left(\dfrac{1}{4}\right)^2$

Ans = _____

2) $5 - \dfrac{3}{2} + \left(\dfrac{1}{8}\right)^2 \times 16$

Ans = _____

3) $3^3 + \dfrac{3}{2} \times \dfrac{1}{6} - 5$

Ans = _____

4) $9 - \dfrac{8}{5} \div \dfrac{4}{5} + 2^5$

Ans = _____

5) $6 - \dfrac{9}{2} \times \left(\dfrac{2}{3}\right)^2$

Ans = _____

6) $25 \div \dfrac{5}{4} - 3^2 \times 2$

Ans = _____

7) $4^3 \times \dfrac{7}{8} - 6$

Ans = _____

8) $7 + 12 \div \dfrac{2}{5} \times \left(\dfrac{3}{2}\right)^{-3}$

Ans = _____

9) $2 \times 5^2 + \dfrac{3}{2}$

Ans = _____

10) $7 + 5 \div \left(\dfrac{1}{2}\right)^5 - 14$

Ans = _____

Name : _____

Order of Operations: Exponents

Solve.

1) $6^3 \times \dfrac{2}{3} - 47$

Ans = [　　　]

2) $\dfrac{6}{5} - 2 + \left(\dfrac{3}{2}\right)^2 \times 8$

Ans = [　　　]

3) $8 - \left(\dfrac{1}{3}\right)^2 \div \dfrac{2}{3}$

Ans = [　　　]

4) $5^2 - 6 + \dfrac{9}{2} \div 3$

Ans = [　　　]

5) $81 \div 9 + \left(\dfrac{1}{5}\right)^{-3}$

Ans = [　　　]

6) $4^3 - \dfrac{4}{3} \times 9$

Ans = [　　　]

7) $5 + \dfrac{1}{6} - 3^2 \times \dfrac{1}{3}$

Ans = [　　　]

8) $2^5 \div \dfrac{2}{3} - \dfrac{1}{2} \times 6$

Ans = [　　　]

9) $4^4 + 5 \div \dfrac{1}{7}$

Ans = [　　　]

10) $5 \times 2 - \left(\dfrac{1}{2}\right)^3$

Ans = [　　　]

Name : _____

Solving Equations - Rectangles

Find the value of x.

1)

(3x) mm   12 mm

$x =$ _____

2)

(9x – 58) cm

5 cm

$x =$ _____

3)

(46 + 5x) m   76 m

$x =$ _____

4)

20 mm

(–10x) mm

$x =$ _____

5)

$\left(\dfrac{x}{2}\right)$ cm

8 cm

$x =$ _____

6)

61 m   (–2x + 81) m

$x =$ _____

7)

84 mm

(4x) mm

$x =$ _____

8)

33 cm   (x – 15) cm

$x =$ _____

Name : _____

Solving Equations - Rectangles

Find the value of x.

1)

34 cm

(5x – 21) cm
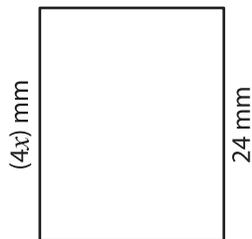
$x =$ _____

2)

(56 + 8x) m

48 m

$x =$ _____

3)

(2x) mm

60 mm

$x =$ _____

4)

(3x – 41) cm

22 cm

$x =$ _____

5)

97 m

(–x + 70) m

$x =$ _____

6)

56 mm

(7x) mm

$x =$ _____

7)

(6x – 19) cm

71 cm

$x =$ _____

8)

$\left(\dfrac{2x}{3}\right)$ m

4 m

$x =$ _____

Solving Equations - Rectangles

Find the value of x.

1)

(27 − 7x) m

90 m

$x =$ _____

2)

72 mm

(8x) mm

$x =$ _____

3)

6 cm

(9x − 84) cm

$x =$ _____

4)

(−2x + 65) m

39 m

$x =$ _____

5)

(6x) mm

18 mm

$x =$ _____

6)

2 cm

$\left(\dfrac{x}{9}\right)$ cm

$x =$ _____

7)

23 m

(x + 17) m

$x =$ _____

8)

(5x) mm

85 mm

$x =$ _____

Name : _____

Solving Equations - Rectangles

Find the value of x.

1)

(4x) mm   24 mm

$x =$ _____

2)

$\left(\dfrac{x}{5}\right)$ m

5 m

$x =$ _____

3)

9 cm

(−39 + x) cm

$x =$ _____

4)

(2x) mm

68 mm

$x =$ _____

5)

(5x + 47) m

57 m

$x =$ _____

6)

19 cm

(8x − 21) cm

$x =$ _____

7)

40 mm   (−2x) mm

$x =$ _____

8)

(10x + 5) m   75 m

$x =$ _____

Name : _____

Solving Equations - Rectangles

Find the value of *x*.

1)

(*x* + 32) m

73 m

x = _____

2)

13 cm

(2*x* − 17) cm

x = _____

3)

32 mm

(8*x*) mm

x = _____

4)

80 m

(−5*x*) m

x = _____

5)

(−10*x* − 24) cm

66 cm

x = _____

6)

(3*x* + 22) mm

28 mm

x = _____

7)

(88 + 7*x*) m

95 m

x = _____

8)

3 cm

$\left(\dfrac{3x}{7}\right)$ cm

x = _____