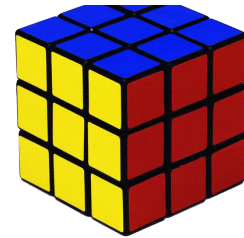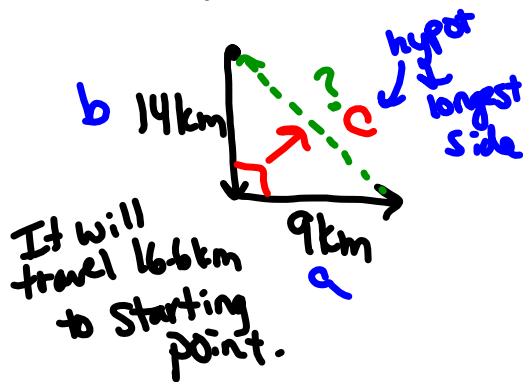**Warm Up Grade 8**
May 10, 2018

<u>**Assessment Review**</u>

1. A ship travels for 14 km toward the south. It then changes direction and travels for 9 km toward the east. How far does the ship have to travel to return directly to its starting point?

b 14km

hypot ↙ longest side

? c

It will travel 16.6km to Starting point.

9km
a

$$c^2 = a^2 + b^2$$
$$= (9)^2 + (14)^2$$
$$= 81 + 196$$
$$c^2 = 277$$
$$\sqrt{c^2} = \sqrt{277}$$
$$c \approx 16.6 \text{ km}$$

2. Show work and answer.

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

flip and multiply 2nd one

$$= \dfrac{3}{4} \times \dfrac{4}{1}$$
$$= \dfrac{12}{4}$$
Reduce
$$= \dfrac{3}{1}$$

b) $\sqrt{36} + \sqrt{25}$
$$= 6 + 5$$
$$= 11$$

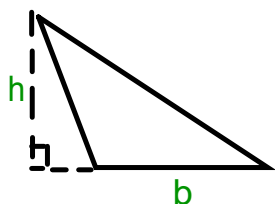# Area of Polygons

Area of a rectangle   A = length x width   OR   A = l x w

$$A_\square = l \times w$$

w

l
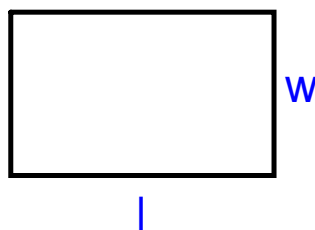
Area of a triangle   A = $\underline{\text{base x height}}$ OR   A = $\underline{\text{b x h}}$
                                    2   2

h

b

h

b

20

height $\Leftarrow$ 6

7

2

16 base

18
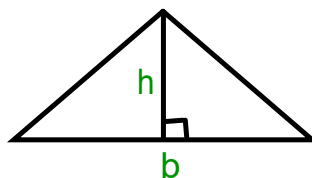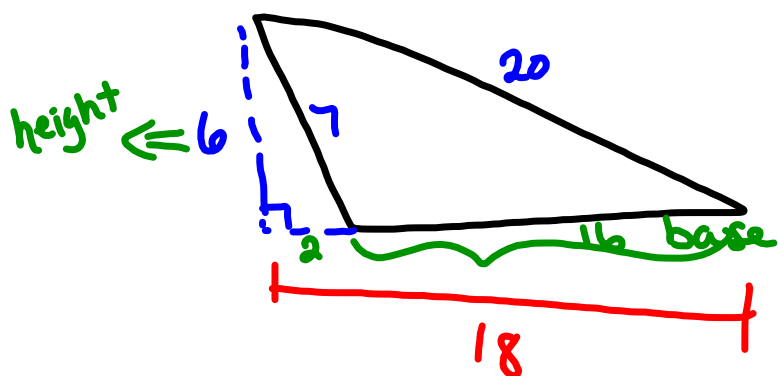
Find the area of each rectangle.

1.

3 mm

18 mm

$A_\square = l \times w$

$= 18\,mm \times 3\,mm$

$= 54\,mm^2$

2.
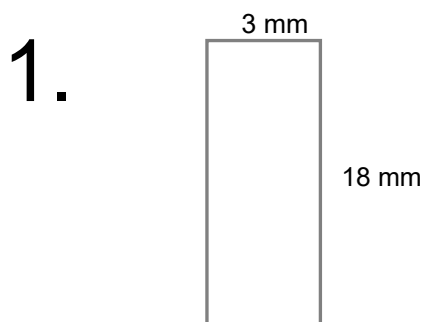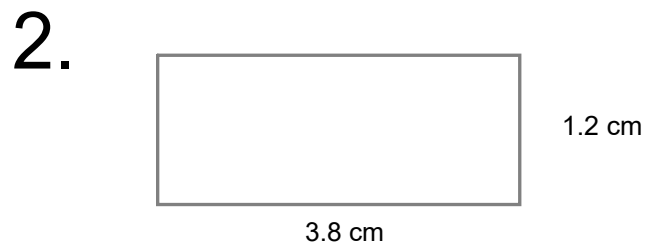
1.2 cm

3.8 cm

$A_\square = l \times w$

$= 3.8\,cm \times 1.2\,cm$

$= 4.56\,cm^2$

∴ Find the area of each triangle.

1.

7m
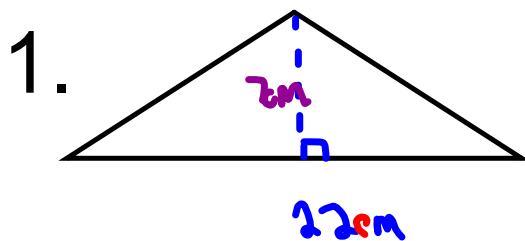
22cm

$A_\triangle = \dfrac{b \times h}{2}$

$= \dfrac{22cm \times 7cm}{2}$

$= \dfrac{154 cm^2}{2}$

$= 77 cm^2$

2.

8cm

4cm   7

11cm
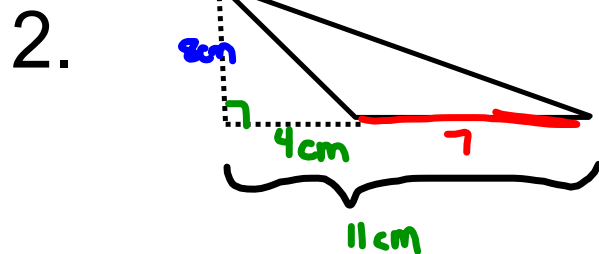
$A_\triangle = \dfrac{b \times h}{2}$

$= \dfrac{7cm \times 8cm}{2}$

$= \dfrac{56 cm^2}{2}$

$= 28 cm^2$

3.

3.5 cm

6.4 cm
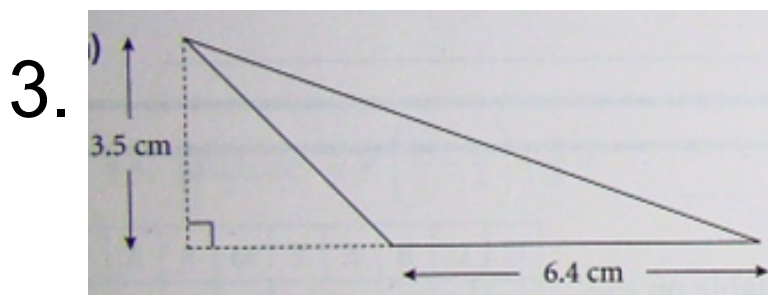
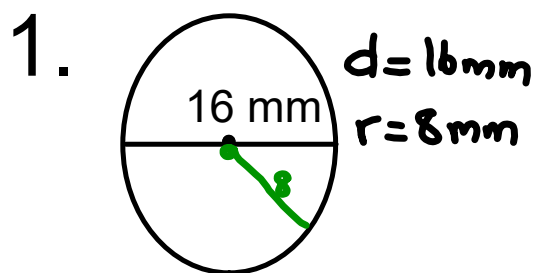Area of a circle $A = \pi \times radius^2$ OR $A = \pi r^2$
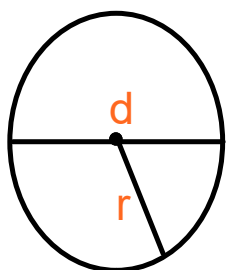
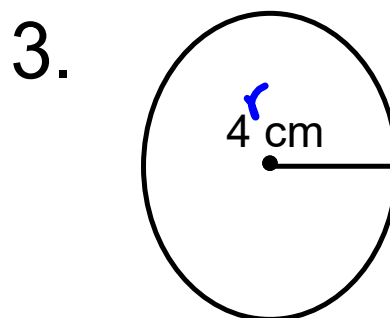$$A_{\circ} = \pi\, r^2$$

radius $\Rightarrow \frac{1}{2}$ of diameter

$$r = \frac{d}{2}$$

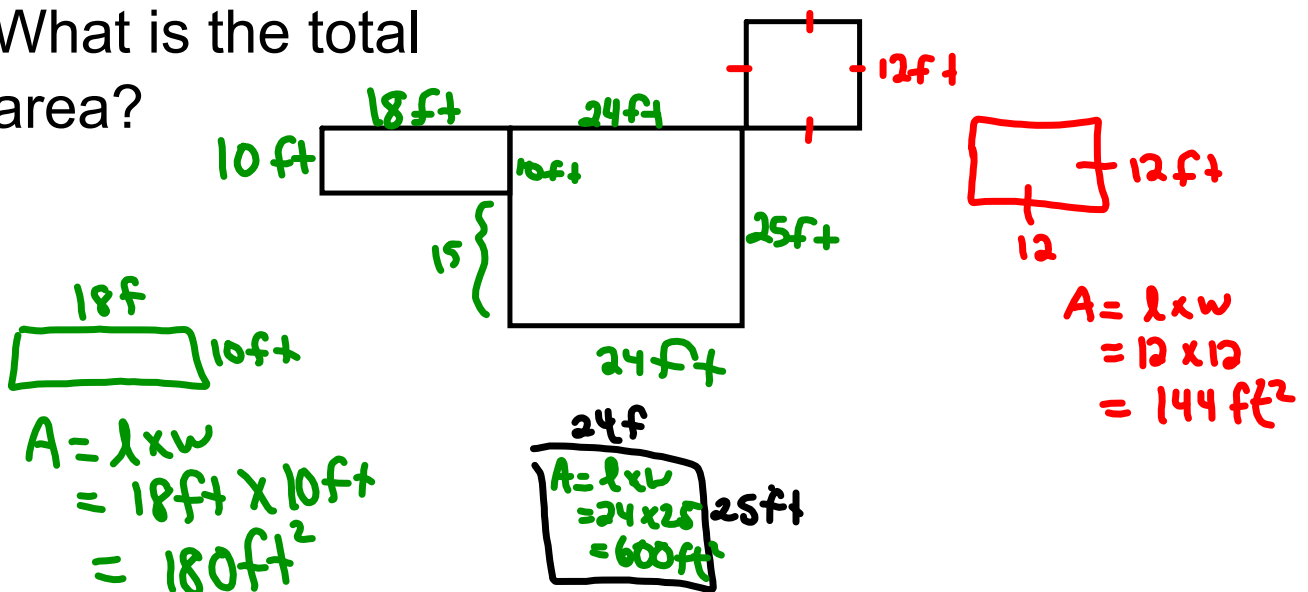$$d = 2r$$

Find the area of each circle.

1.

16 mm

$d = 16mm$

$r = 8mm$

$A_0 = \pi r^2$

$= \pi (8mm)^2$

$= 3.14 \times 64mm^2$

$= 200.96 \, mm^2$

3.

4 cm

$A_0 = \pi r^2$

$= 3.14 (4cm)^2$

$= 3.14 \times 16 cm^2$

$A_0 = 50.24 \, cm^2$

Floor plan of building

What is the total area?

18 ft

24 ft

12 ft

10 ft

10 ft

12 ft

25 ft

15

12

18 f

10 ft

$A = l \times w$
$= 12 \times 12$
$= 144\ ft^2$

$A = l \times w$
$= 18ft \times 10ft$
$= 180ft^2$

24 ft

24 f

$A = l \times w$
$= 24 \times 25$
$= 600 ft^2$

25 ft

Total = Add all areas
$= 180ft^2 + 600ft^2 + 144\ ft^2$
$= 924 ft^2$

Attachments

Review of Surface area of 2D Shape Grade 8 Unit 4 PDF.pdf