Year 8 Mathematics
Measurement Practice Test 1
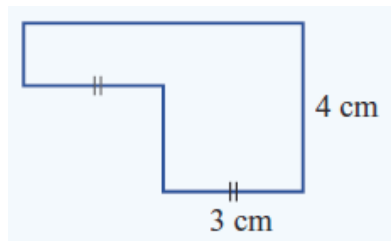
Name_____

1 Convert these lengths to the units shown in brackets
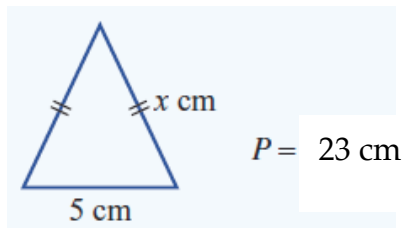
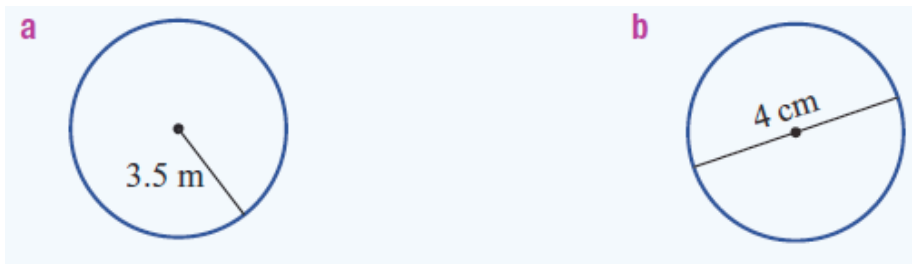   a) 4.7 cm (mm)   b) 75 000 cm (km)

2 Find the perimeter of

4 cm

3 cm

3 Find the unknown value x in this triangle if the perimeter is 23 cm.

x cm

$P =$ 23 cm

5 cm

4 Find the circumference of these circles correct to 2 decimal places.

a

3.5 m

b

4 cm
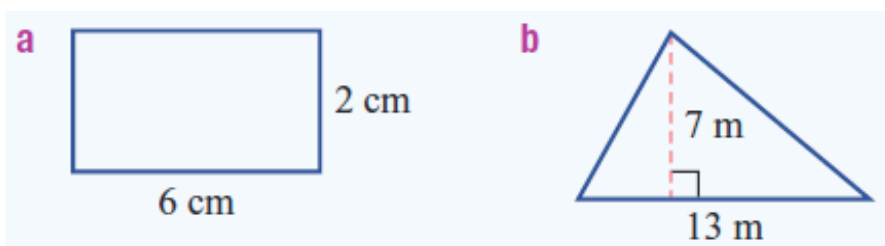
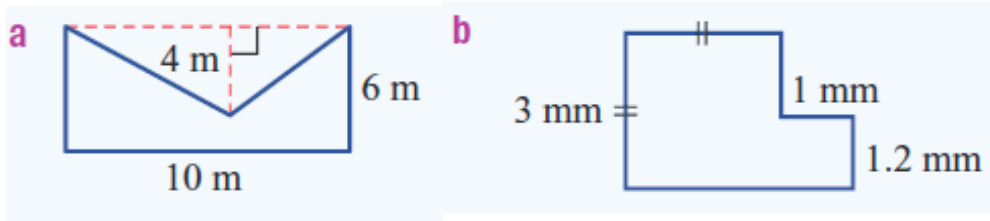5 Convert these area measurements to the units shown in the brackets.

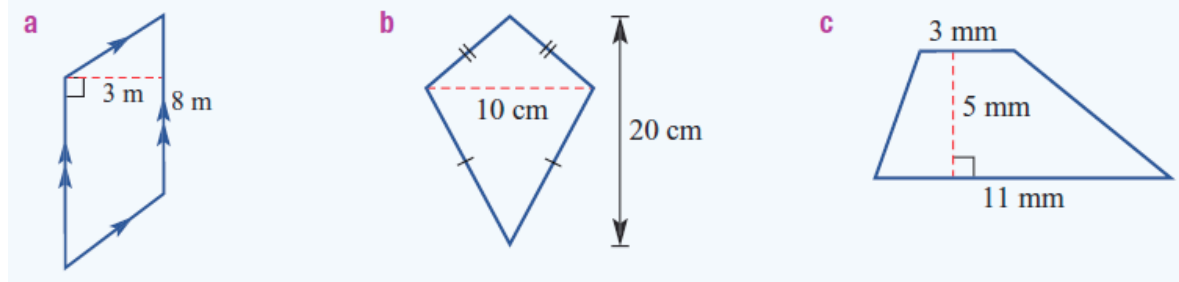   a) 0.248 m^2 (cm^2)   b) 3100 mm^2 (cm^2)
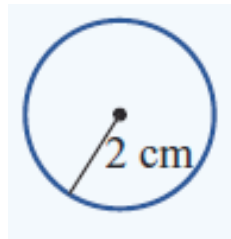
6 Find the area of these shapes

a

2 cm

6 cm

b

7 m

13 m

7 Find the area of these shapes by addition or subtraction

a

4 m   6 m
10 m

b

3 mm   1 mm   1.2 mm

8 Find the area of these shapes.

a

3 m   8 m

b

10 cm   20 cm

c

3 mm   5 mm   11 mm

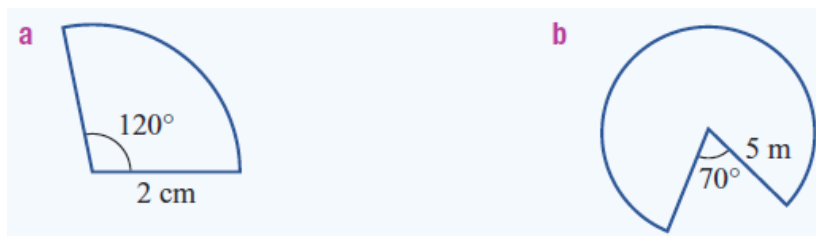9 Find the area of this circle to 1 decimal place
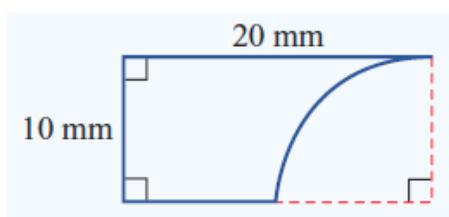
2 cm

10 Find the area of this quadrant and semi circle to 2 decimal places

a

3 m

b
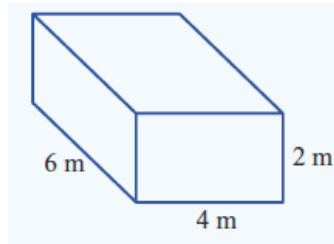
5 km

11 Find the area of these sectors correct to 2 decimal places

a

120°   2 cm

b

5 m   70°

12 Find the area of this composite shape correct to 1 decimal place
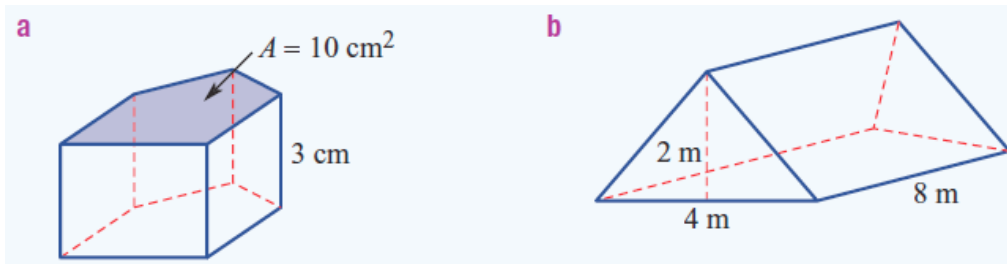
20 mm
10 mm

13 Find the volume of this rectangular prism

6 m   4 m   2 m

14 Find the capacity, in litres, for a container that is a rectangular prism 20 cm long, 10 cm wide and 15 cm high.

15 Find the volume of these prisms

a

$A = 10\ cm^2$

3 cm

b

2 m   4 m   8 m

16 Find the volume of these cylinders rounding to 2 decimal places

a

2 cm

10 cm

b

14 m   20 m

17 Convert these times to the units shown in brackets.

a) 3 days (minutes)   b) 30 months (years)

18 Write these times using the system given in brackets.

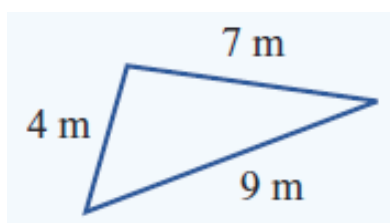a) 4:30 p.m. (24-hour time)   b) 1945 (a.m./p.m.)

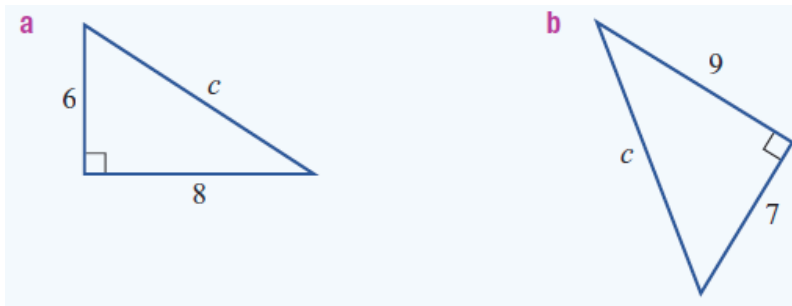19 Decide if the following are Pythagorean triads

a) 6, 8, 10   b) 4, 5, 9

20 Decide if this triangle has a right angle

7 m

4 m

9 m

21 Find the length of the hypotenuse for these right-angled triangles. Round the answer
    for part b to 1 decimal places

a

6

c

8

b

9

c

7

22 A rectangular wall is to be strengthened by a diagonal brace. The wall
    is 6 m wide and 3 m high. Find the length of brace required correct to
    the nearest cm.

Brace

3 m

6 m
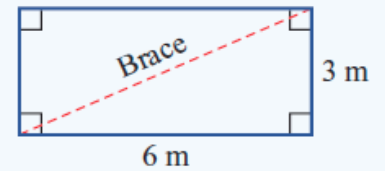
23   Find the value of a in this right-angled triangle.

5

a

4
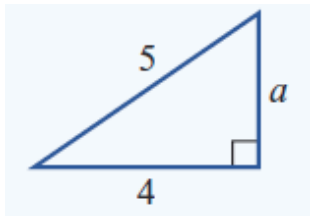
24 A 10 m steel brace holds up a concrete wall. The bottom of
    the brace is 5 m from the base of the wall. Find the height of
    the concrete wall correct to 2 decimal places.

10 m

Wall

5 m

ANSWERS

1 a) 47 mm   b) 0.75 km

2 20 cm

3 $x = 9$

4 a) 21.99 m   b) 12.57 cm

5 a) 2480 cm^2 b) 31 cm^2

6 a) 16 cm^2 b) 45.5 m^2

7 a) 40 m^2 b) 10.2 mm^2

8 a) 24 m^2 b) 100 m^2 c) 35 mm^2

9 12.7 cm^2

10 a) 7.07 m^2 b) 9.82 m^2

11 a) 4.19 cm^2 b) 63.27 m^2

12 121.5 mm^2

13 48 m^3

14 3 litres,

15 a) 30 cm^3 b) 32 m^3

16 a) 125.66 cm^3 b) 3078.76 m^3

17 a) 4320 minutes   b) 2.5 years

18 a) 1630   b) 7:45 p.m

19 a) yes   b) No

20 It is not a right angled triangle

21 a) 10   b) 11.4

22 671 cm

23 3

24 8.66 m