Nelson Maths 9 for the CSF II
Homework and Assessment Sheets

Pythagoras' theorem

ME 9-5
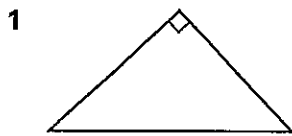
Name: _____ Class: _____

Due date: _____ Parent's signature: _____

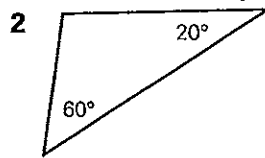| Level 5	/10	Level 6																			/20

Part A: Level 5

State whether the triangles are right-angled without using a protractor.
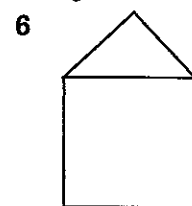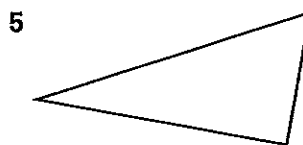

1

right-angled? _____

2 20° 60°

right-angled? _____

3 45° 45°
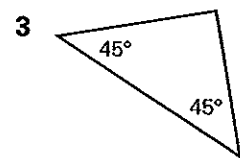
right-angled? _____

Measure each angle and mark any right angles with the correct sign on the diagrams.
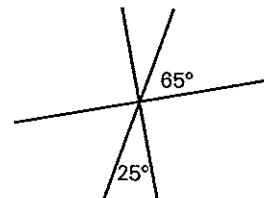

4

5

6

Is it possible to have a right angle in the following triangles?

7 equilateral triangle _____   **8** isosceles triangle _____

9 obtuse triangle _____

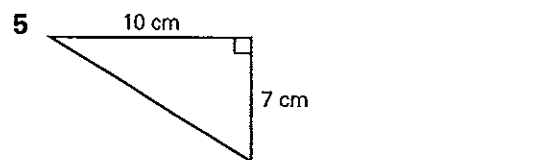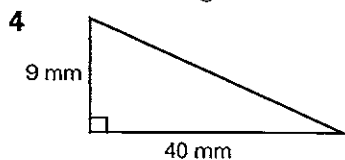**10** Is there a right angle in the diagram on the right? _____

65°

25°
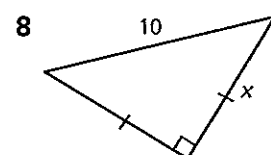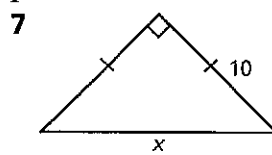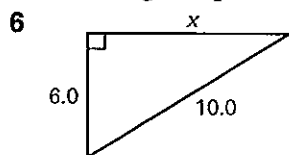
Part B: Level 6

Circle the Pythagorean triads in each list.

1 1, 2, 3   2, 3, 4   3, 4, 5   4, 5, 6   **2** 5, 12, 13   7, 8, 12   7, 8, 11   7, 24, 25

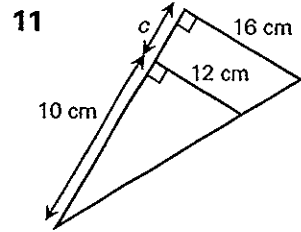**3** 8, 10, 12   9, 12, 15   6, 8, 10   11, 13, 17

Calculate the length of each hypotenuse to the nearest whole number.

4

9 mm

40 mm

_____

5   10 cm

7 cm

_____

Find the length represented by each pronumeral to one decimal place.

6   x

6.0   10.0

_____

7   10

x

_____

8   10

x

_____

23

Find the ratio of the side lengths of these pairs of triangles in order to find the unknown length.

9

8 mm
4 mm
a
20 mm

_____

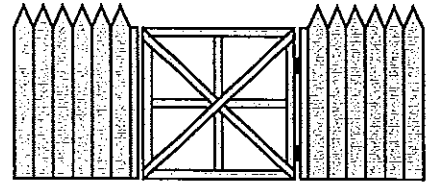**10**

14 cm
8 cm
b
12 cm

_____

11

c
16 cm
12 cm
10 cm

_____
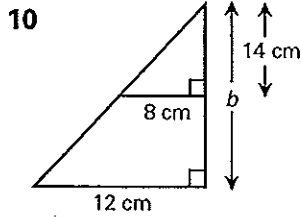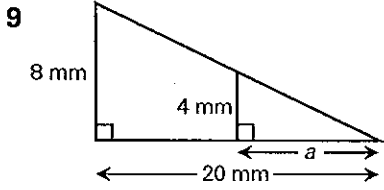
12 This square garden gate is 1 m² in area.
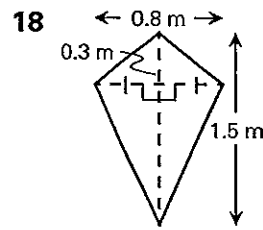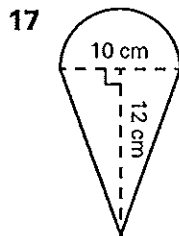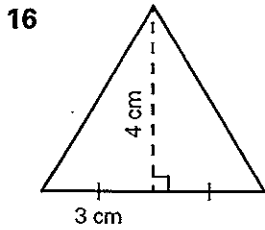What is its height in centimetres?   _____

13 How many centimetres of wood are
needed for the outer square frame?   _____

14 How many centimetres of wood are
needed for each diagonal?   _____

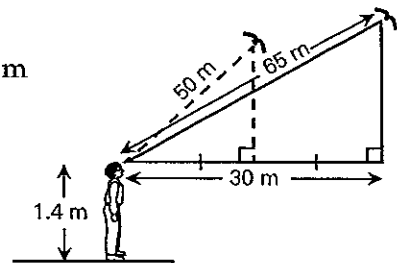**15** How many centimetres of wood are needed to make the gate?   _____

Find the perimeters of these shapes in centimetres.

16

4 cm
3 cm

_____

17

10 cm
12 cm

_____

18

← 0.8 m →
0.3 m
1.5 m

_____

Answer these questions about a child watching two birds.
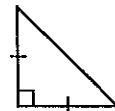
19 How high is the higher bird above the child's head?   _____ m

20 How high is the lower bird above the ground?   _____ m

50 m   65 m
30 m
1.4 m

Puzzler

Pictured is an isosceles right-angled triangle. Use sketches to show how
four identical isosceles right triangles can be tessellated to make a
square and two *different* parallelograms. (No rectangles allowed!)

Vocabulary

Write the mathematical meanings of:

Right angle _____

Right-angled triangle _____

Hypotenuse _____

Pythagoras' theorem _____

_____

Pythagorean triad _____