Nelson Maths 9 for the CSF II
Homework and Assessment Sheets

Angles in triangles — SP 9-2

Name: _____ **Class:** _____

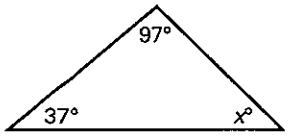
Due date: _____ **Parent's signature:** _____

Level 5 /10	Level 6 /20

Part A: Level 5

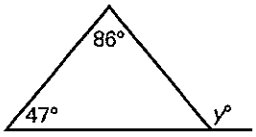
Without measuring any of the angles, find the size of the angles labelled in each diagram.

1



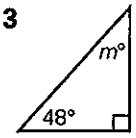
$x =$ _____

2



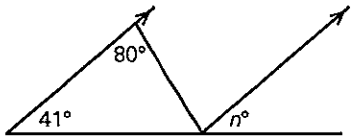
$y =$ _____

3



$m =$ _____

4



$n =$ _____

5 Use a ruler and a protractor to construct a triangle with a base of length 6 cm and with base angles of 117° and 17°.

6 What is the degree measure of the third angle in the triangle which you have drawn in question 5? _____

7 Complete the sentence: The sum of the three angles in a triangle is _____.

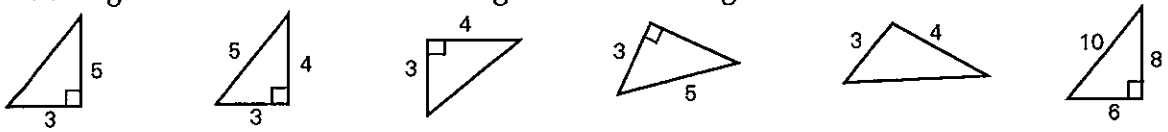
8 Draw a *scalene* triangle and list one property.

9 Draw an *isosceles* triangle and list two of its properties.

10 Draw an *equilateral* triangle and list three of its properties.

Part B: Level 6

1 Some triangles are drawn. Shade the triangles which are congruent to each other.



State the *three* ways in which triangles can be congruent. (Refer to page 83 of *Nelson Maths 9 for the CSF*.)

2 _____

3 _____

4 _____

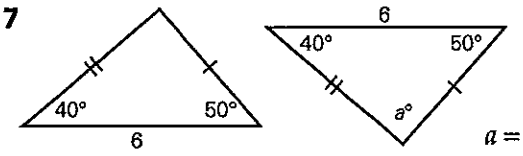
What are *two* properties of similar triangles? (Refer to page 271 of *Nelson Maths 9 for the CSF*.)

5 _____

6 _____

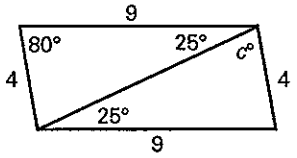
Find the size of the labelled angles for the pairs of *congruent* triangles shown.

7



$a =$ _____

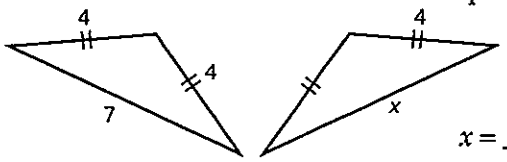
8



$c =$ _____

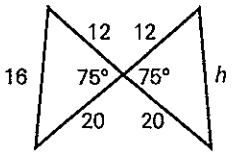
Find the size of the labelled sides for the pairs of *congruent* triangles shown.

9



$x =$ _____

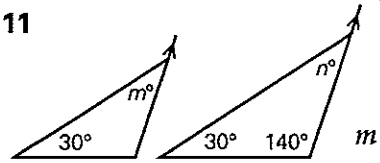
10



$h =$ _____

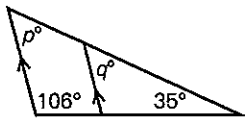
Find the size of the labelled angles for the pairs of *similar* triangles shown.

11



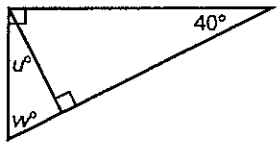
$m =$ _____, $n =$ _____

12



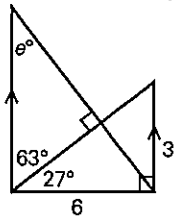
$p =$ _____, $q =$ _____

13



$u =$ _____, $w =$ _____

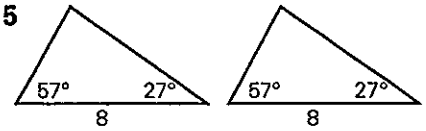
14



$e =$ _____

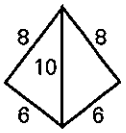
Choose from the three types of congruence — SSS, SAS or ASA.

15



_____

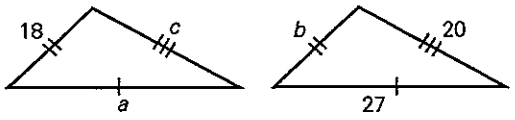
16



_____

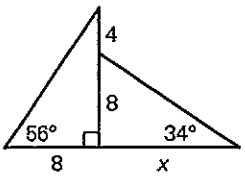
Find the value of the labelled sides and angles for the pairs of *congruent* triangles shown.

17



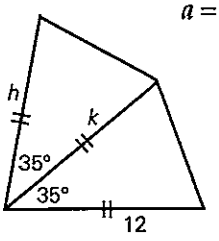
$a =$ _____, $b =$ _____, $c =$ _____

18



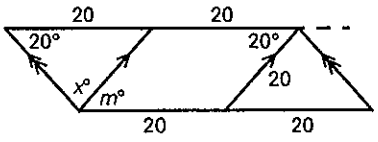
$x =$ _____

19



$h =$ _____, $k =$ _____

20

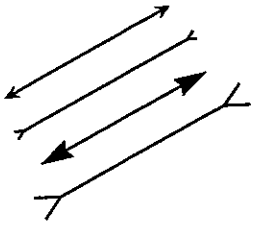


$x =$ _____, $m =$ _____

Puzzler

Look at the diagram. Without measuring, estimate which line is longest.

Now check your answer by measuring all the lines.



Vocabulary

Write the mathematical meaning of:

Congruent triangles _____

Similar triangles _____

Nelson Maths 9 for the CSF II
Homework and Assessment Sheets

Angles in triangles — SP 9-2

Name: _____ Class: _____

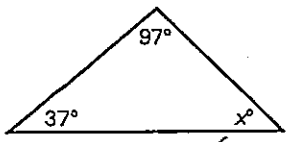
Due date: _____ Parent's signature: _____

Level 5 /10	Level 6 /20

Part A: Level 5

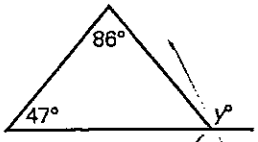
Without measuring any of the angles, find the size of the angles labelled in each diagram.

1



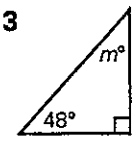
$x =$ 46° ✓

2



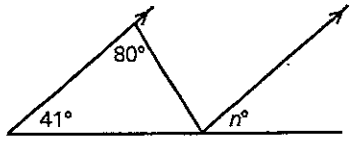
$y =$ 133° ✓

3



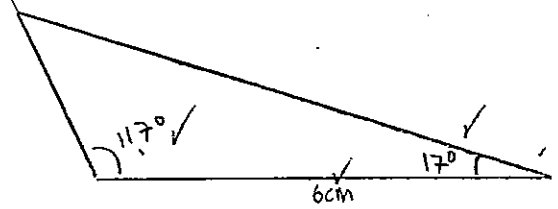
$m =$ 42° ✓

4



$n =$ 41° ✓

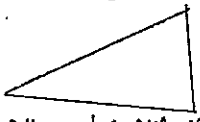
5 Use a ruler and a protractor to construct a triangle with a base of length 6 cm and with base angles of 117° and 17°.



6 What is the degree measure of the third angle in the triangle which you have drawn in question 5? 46° ✓

7 Complete the sentence: The sum of the three angles in a triangle is 180°.

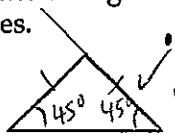
8 Draw a *scalene* triangle and list one property.



✓

All angles are never equal

9 Draw an *isosceles* triangle and list two of its properties.



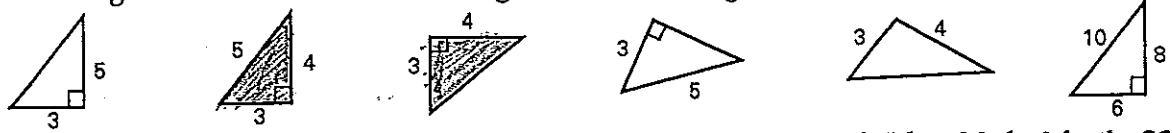
- equal angles on base ✓
- opposite sides equal
- opposite angles equal

10 Draw an *equilateral* triangle and list three of its properties. ✓

- all sides are the same lenght
- all angles are equal ✓
- the angle of an equilateral triangle must be 60°

Part B: Level 6

1 Some triangles are drawn. Shade the triangles which are congruent to each other.



State the *three* ways in which triangles can be congruent. (Refer to page 83 of *Nelson Maths 9 for the CSF.*)

2 Side Side Side (SSS) ✓

3 Angle Angle Side (AAS) ✓

4 Side Angle Side (SAS) ✓

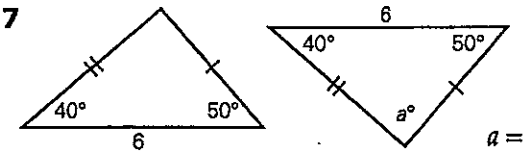
What are *two* properties of similar triangles? (Refer to page 271 of *Nelson Maths 9 for the CSF.*)

5 Side lenghts are the same ✓

6 Angles are the same ✓

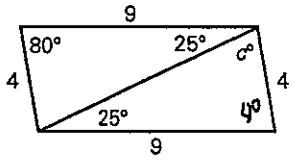
Find the size of the labelled angles for the pairs of *congruent* triangles shown.

7



$a =$ 90° ✓

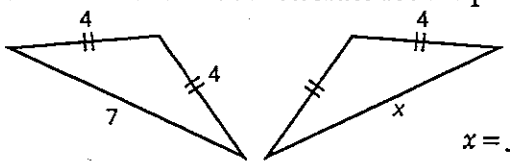
8



$c =$ 75° ✓

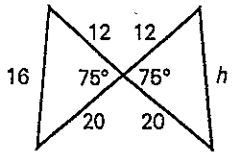
Find the size of the labelled sides for the pairs of *congruent* triangles shown.

9



$x =$ 7 ✓

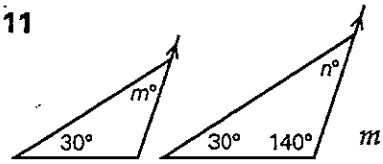
10



$h =$ 16 ✓

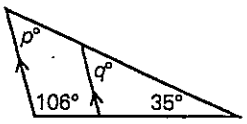
Find the size of the labelled angles for the pairs of *similar* triangles shown.

11



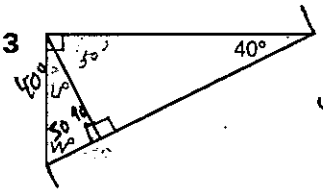
$m =$ 10° ✓, $n =$ 10° ✓

12



$p =$ 39° ✓, $q =$ 39° ✓

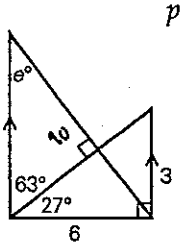
13



corresponding

$u =$ 40° ✓, $w =$ 50° ✓

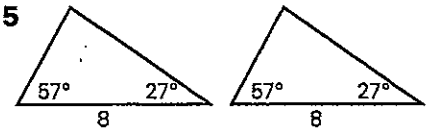
14



$e =$ 27° ✓

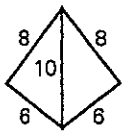
Choose from the three types of congruence — SSS, SAS or ASA.

15



ASA ✓

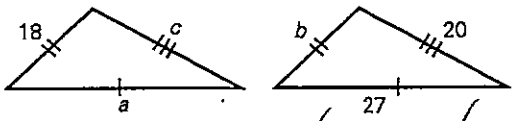
16



SSS ✓

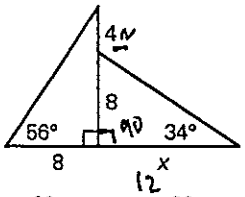
Find the value of the labelled sides and angles for the pairs of *congruent* triangles shown.

17



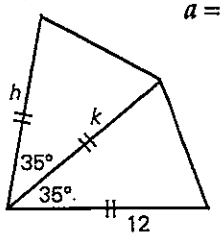
$a =$ 27 ✓, $b =$ 18 ✓, $c =$ 20 ✓

18



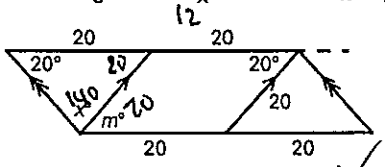
$x =$ 12 ✓

19



$h =$ 12 ✓, $k =$ 12 ✓

20

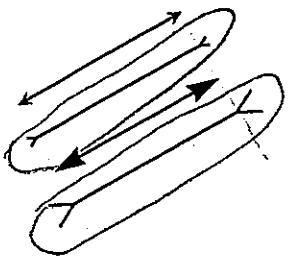


$x =$ 140° ✓, $m =$ 20° ✓

Puzzler

Look at the diagram. Without measuring, estimate which line is longest.

Now check your answer by measuring all the lines.



Vocabulary

Write the mathematical meaning of:

Congruent triangles Triangles that are exactly the same ✓

Similar triangles Triangles that are the same in portion or ratio. ✓