Name:

Exam Style Questions

Triangles: Lengths of Sides

Corbettmaths

Equipment needed: Pen and Calculator

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

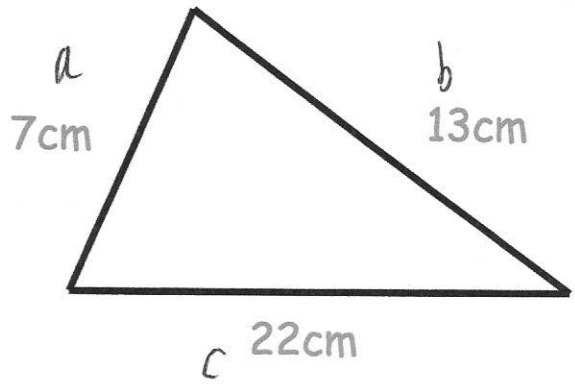
www.corbettmaths.com/contents

Video 327a

Answers and Video Solutions

1. Mollie has drawn the following triangle.

Not drawn accurately



Explain why she must have made a mistake.

$7 + 13 = 20$

$20 < 22$

for a triangle to exist, $a + b > c$

but $a + b < c$ for this triangle.

(1)

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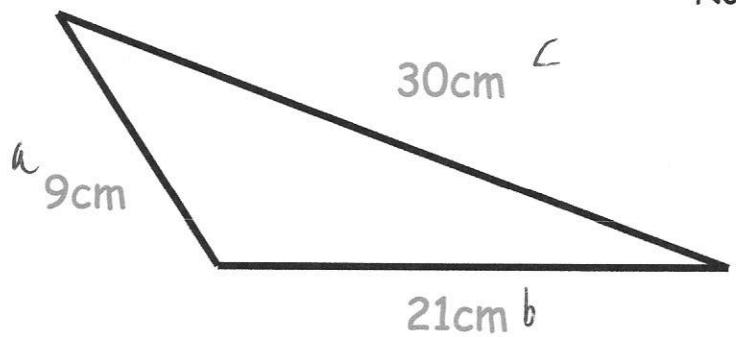
2. Kaiden has drawn the following triangle.

Not drawn accurately



$9 + 21 = 30$

so

$a + b = c$

Explain why he must have made a mistake.

for a triangle to exist, $a + b > c$

but $a + b = c$ for this triangle.

(1)

3. The lengths of the two shorter sides of a triangle are 10cm and 14cm.

Which of the following could be the length of the largest side?
Circle the correct answer.

25cm 13cm 30cm (21cm)

$10 + 14 = 24$

Since longest side, must also be greater than 14cm.

(1)

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4. The lengths of the two sides of a triangle are 50cm and 30cm

Which of the following could be the length of the third side?
Circle the correct answer.

20cm (75cm) 15cm 80cm

must be greater than 20cm
and less than 80cm

(1)

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5. The lengths of the two sides of a triangle are 7.5cm and 8.1cm

Which of the following could **not** be the length of the third side?
Circle the correct answer.

(0.5cm) 15.2cm 1cm 14cm

$8.1 - 7.5 = 0.6$

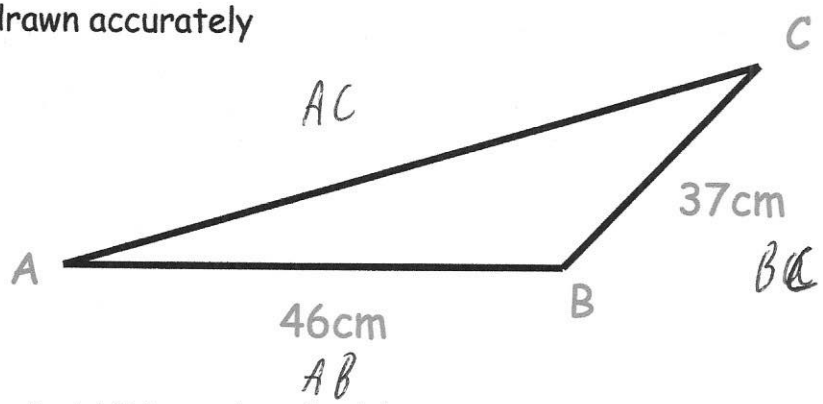
$8.1 + 7.5 = 15.6$

must be between 0.6cm and 15.6cm

(1)

6. The triangle ABC is shown below.

Not drawn accurately



Joshua says that AC has a length of 85cm.

Explain why Joshua must be wrong.

46 + 37 = 83cm but AC must be less than 83cm.

Therefore Joshua must be wrong.

(1)

7. Yara says that the lengths of the 3 sides of a triangle are 11.9cm, 17.4cm and 28.7cm.

a b c

Could a triangle exist with those lengths of sides?
Explain your answer.

11.9 + 17.4 = 29.3cm

Yes, since a + b > c.

(1)

8. Two sides of a triangle have lengths of 30cm and 18cm.

Write down an error interval for the third side of the triangle, y.

$30 - 18 = 12$ cm

$30 + 18 = 48$ cm

$12 < y < 48$

(2)

9. Two sides of a triangle have lengths of 3.7m and 4.6m

Write down an error interval for the third side of the triangle, x.

$4.6 - 3.7 = 0.9$ m

$3.7 + 4.6 = 8.3$ m

$0.9 < x < 8.3$

(2)