

Tuesday 7th July 2020

LO: calculate area of a triangle

<https://vimeo.com/430339609>

Click on the
video link

<https://vimeo.com/430339609>

Method 1
Count the
squares

Method 2
Cut it up!

Method 3
Make a
rectangle

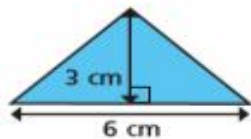
Find the area
of the
triangle

10:31

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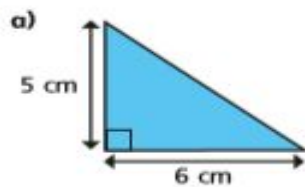
Area of a triangle (3)

- 1 Calculate the area of the triangle.

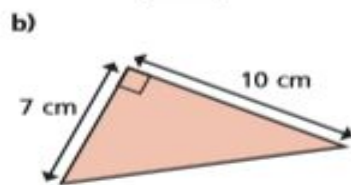


area = cm²

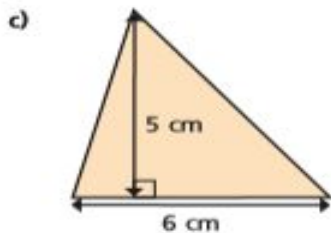
- 2 Calculate the area of the triangles.



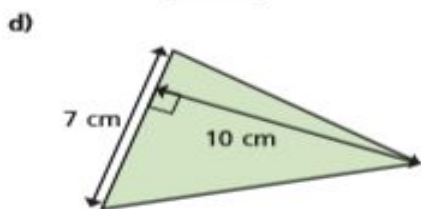
area = cm²



area = cm²

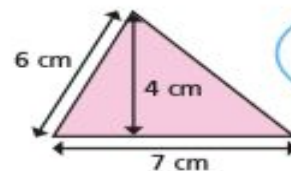


area = cm²



area = cm²

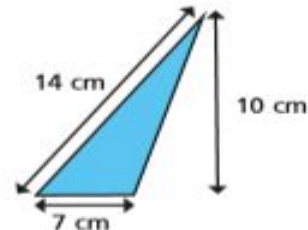
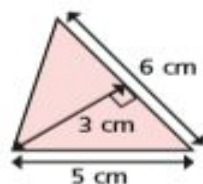
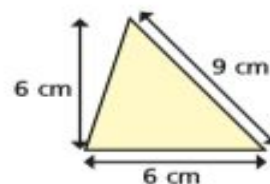
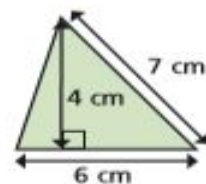
- 3 What mistake has Dora made?



To find the area you do
 $7 \times 6 \div 2 = 21 \text{ cm}^2$



- 4 Label the base of each triangle b .
Label the perpendicular height h .

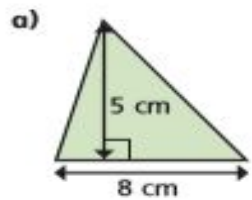


- 5 Are the statements always, sometimes or never true?

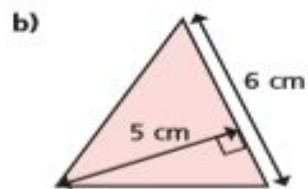
The side at the bottom of a triangle is the base.

The perpendicular height is equal to the vertical height.

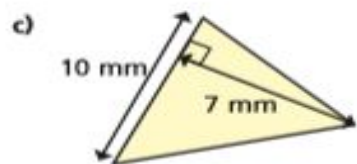
6 Calculate the area of the triangles.



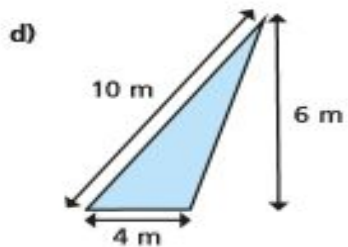
area = cm²



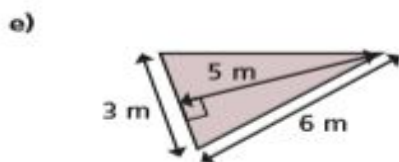
area = cm²



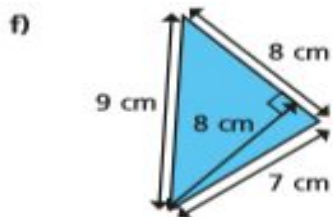
area = mm²



area = m²

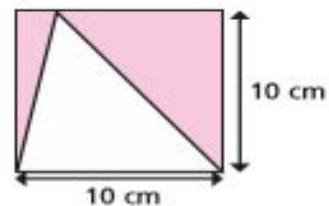


area = m²



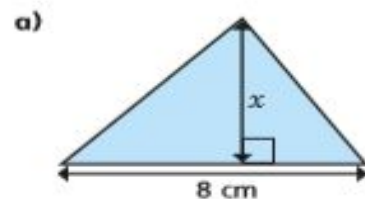
area = cm²

7 Find the area of the shaded region.

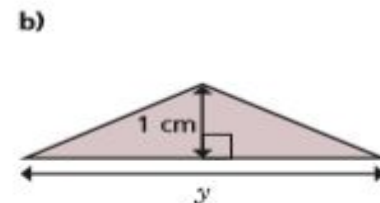


area = cm²

8 The area of each triangle is 12 cm². Find the missing lengths.

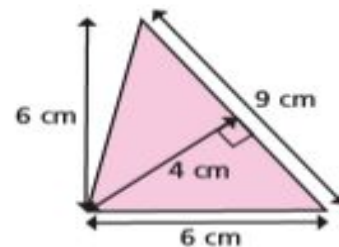


$x =$ cm



$y =$ cm

9 Show two ways you can work out the area of the triangle.



Compare answers with a partner.



Extension

17 The table below shows the prices for chocolates at a shop.

TWIX	58 pence
SOFT MINTS	55 pence
FLAKE	66 pence
KITKAT CHUNKY	38 pence
TWIRL	28 pence

IMOGEN has £9.00 to do the shopping. If IMOGEN buys 6 FLAKE and 5 SOFT MINTS then how much money is IMOGEN left with?

18 While on a holiday to Taiwan EVE purchased a toy for 21 Taiwan Dollar. The exchange rate is £1 = 47.26 Taiwan Dollar. What is the cost of the toy in UK pounds?

19 EVE's grandma is 8 times as old as EVE will be in 1 years time. If EVE is 9 years old (now) then how old is grandma?

20 TIA, SUMMER, SIENNA and HANNAH are each given nineteen MOW WOAMS from a bag and there are ten left over. How many MOW WOAMS were originally in the bag?

21 ISOBEL, ZARA, HOLLY and LIBBY are all members of the school 4 x 400 metres relay team. Their individual timings (in minutes and seconds) in a 400 metres run are 01:35, 01:15, 01:35 and 01:45 in that order. Because of the practice they are doing the team is expected to better their collective relay race time by 18 seconds. What is the best time the team can hope for in the competition?

22 The table below shows the temperatures recorded in cities around the world.

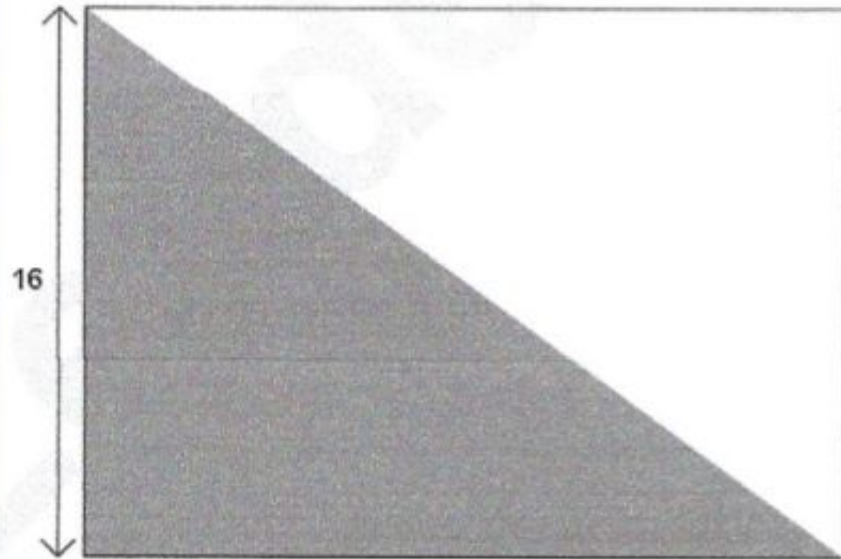
France - Paris	11 deg C
Kenya - Nairobi	4 deg C
Spain - Madrid	15 deg C
Fiji - Suva	0 deg C
Iran - Tehran	-9 deg C
Russia - Moscow	1 deg C
Tunisia - Tunis	27 deg C

Which city was the coldest?

23 Which of the following fractions is the SMALLEST?
[$51/50$, $81/50$, $1/2$, $71/50$]

24

Look at the shape below. The height of the rectangle is as shown in CM. If the perimeter of the rectangle is 76 CM, then what is the area of the shaded triangle in Square CM?



26 A bus with 58 EMPTY seats starts from Hagbourne. There are no passengers on the bus. When the bus reaches Llansannan, 12 passengers get on the bus. At the next stop of Knighton, 7 passengers get off and 31 get on the bus. How many total passengers are on the bus when the bus departs Knighton?

27 The table below shows the number of drink cans sold from a vending machine on each day of the week.

Monday	8
Tuesday	8
Wednesday	15
Thursday	4
Friday	9
Saturday	?
Sunday	19

if the average sale per day was 11, then how many cans were sold on Saturday?

28 The image below shows the clockface as seen in a mirror. What is the actual time?



29 The sum of three numbers is 150. The second number is Three times the size of the first. And the third number is Six times the size of the first. What is the value of the first number?

30 Look at the 4 sets of numbers below.

A	9	64	107
B	67	125	16
C	193	1	19
D	113	81	1

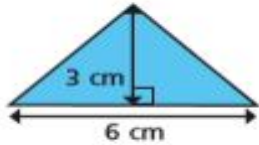
Which of the series has PRIME NUMBER - CUBE NUMBER - SQUARE NUMBER in that order?



Answers

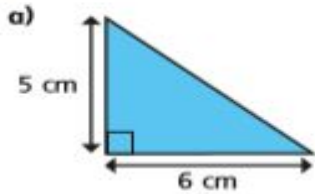
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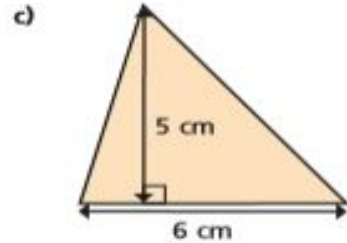


area = cm²

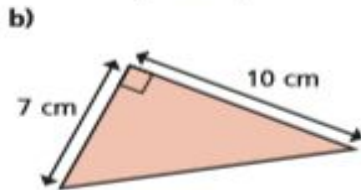
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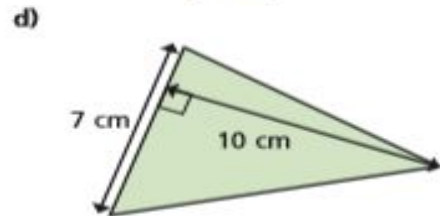
area = cm²



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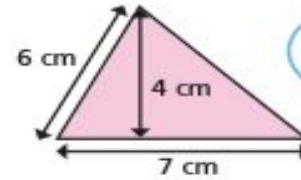


area = cm²



area = cm²

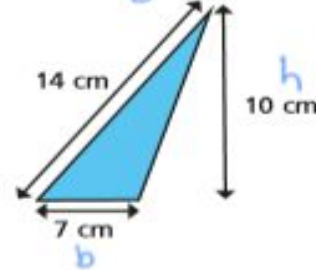
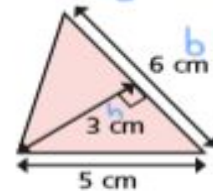
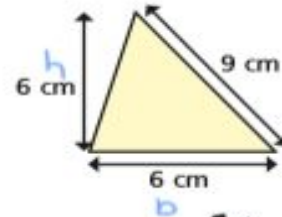
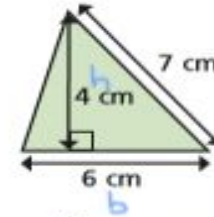
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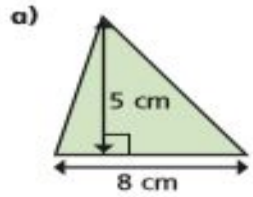
The side at the bottom of a triangle is the base.

Sometimes

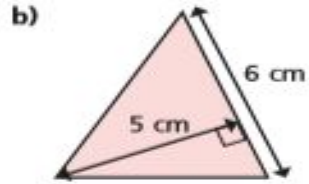
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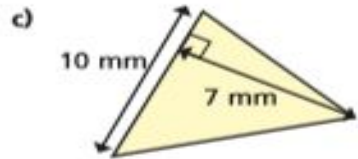
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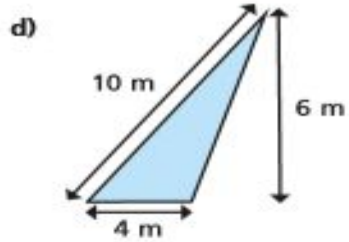
area = cm²



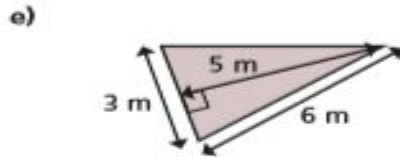
area = cm²



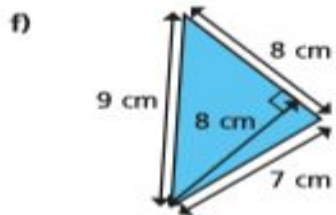
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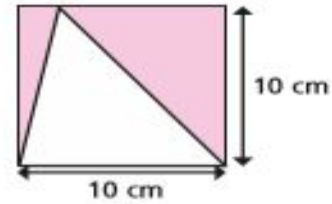


area = m²



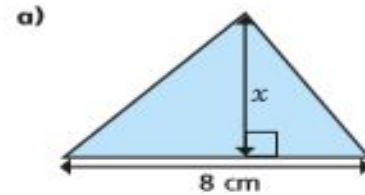
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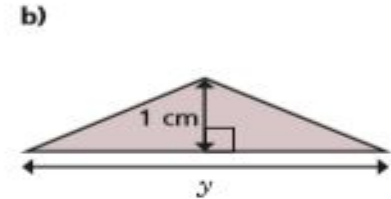


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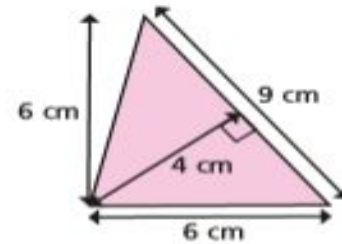


x = cm



y = cm

9 Show two ways you can work out the area of the triangle.



$\frac{9 \times 4}{2} = 18 \text{ cm}^2$

$\frac{6 \times 6}{2} = 18 \text{ cm}^2$

Compare answers with a partner.

Extension Answers

17	£2.29	Cost for 6 FLAKE = £3.96. Cost for 5 SOFT MINTS = £2.75. Total cost = £6.71
18	£0.44	Cost in Pounds = $21 / 47.26 = £0.44$
19	80	
20	86	There are Four children and each gets Nineteen sweets. The total sweets therefore = $(4 \times 19) + 10 = 86$
21	05:52	$(01:35 + 01:15 + 01:35 + 01:45) - 18 \text{ seconds} = 05:52$
22	Iran - Tehran	-9 was the lowest temperature
23	$1/2$	The fractions in ascending order are = $1/2, 51/50, 71/50, 81/50$
24	176 sq cm	If the perimeter is 76 cm then the base is 22 cm. The area is calculated as $(\text{base} \times \text{altitude})/2 = 176 \text{ sq cm}$
25	270 meters	Actual distance = $5400 \times (35 / 7) = 270 \text{ meters}$
26	36	Total passengers on the bus = $12 - 7 + 31 = 36$
27	14	Total sales for the week excluding Saturday = 63. Therefore sale for Saturday = $(11 \times 7) - 63 = 14$
28	06:45	Mirror reflection.
29	15	
30	B	