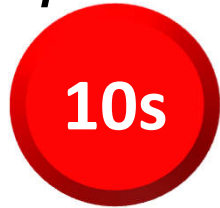


1 point



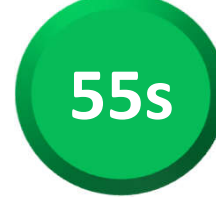
2 points



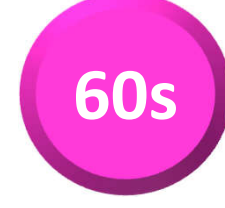
3 points



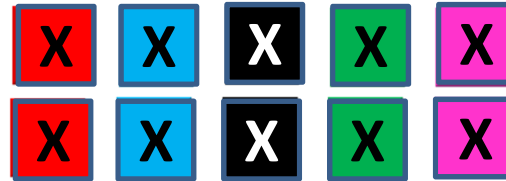
4 points



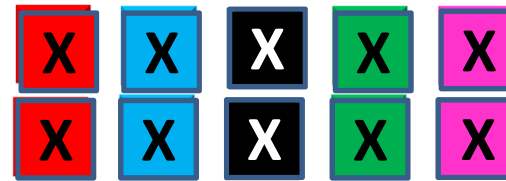
5 points



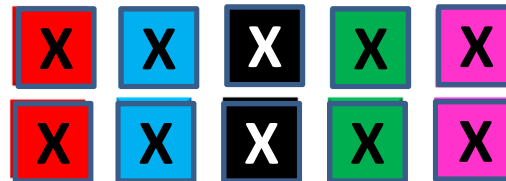
Algebra



Data Handling



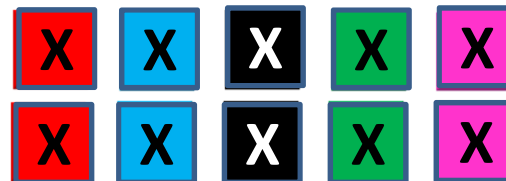
Number



Shape, Space &  
Measure



Pot Luck

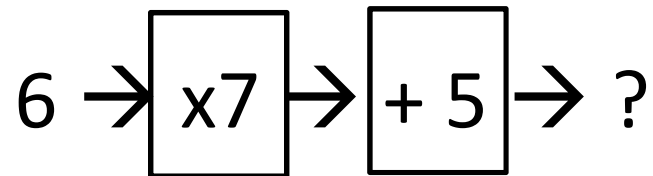


Means you MUST  
NOT use a  
calculator or you  
will be deducted  
that question's  
value of points

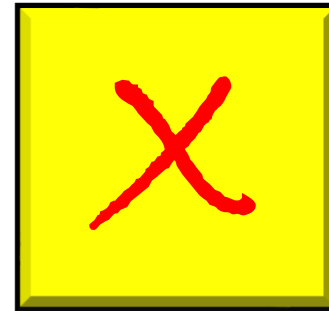


## 1 Point Algebra Question

- Calculate the output for this function machine:



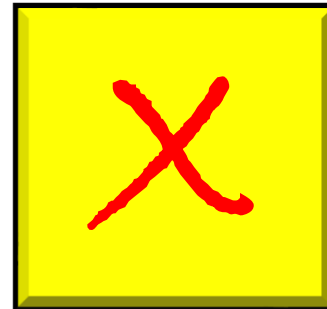
47



# 1 Point Algebra Question

- Fill in the gaps in this sequence:

23, 18, 13, 8

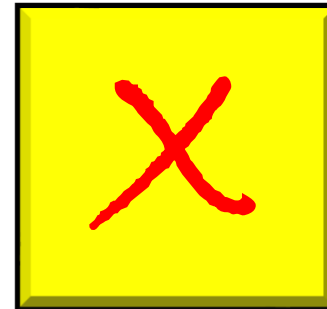


# 1 Point Data Handling Question

- Which pet is owned by the **fewest** people?

	Jim	Tom	Ann	Pam	Yin
dog			✓	✓	
cat		✓		✓	✓
mouse	✓		✓		
rabbit	✓	✓			
horse					✓

**Horse**


















# 1 Point Data Handling Question

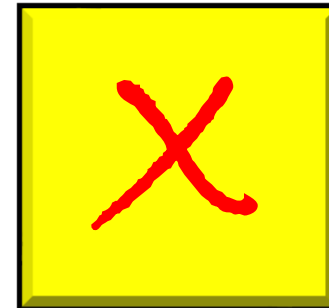
- How many people said their favourite pet was a dog?

Key  represents 2 people



Survey into preferred pets	
Cat	   
Dog	      
Bird	 
Other	 

13

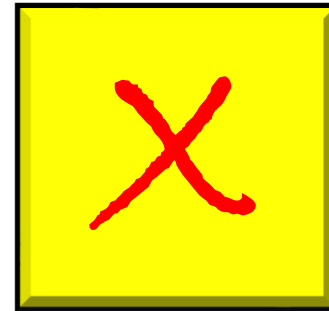




## 1 Point Number Question

- Calculate 25% of 28

7

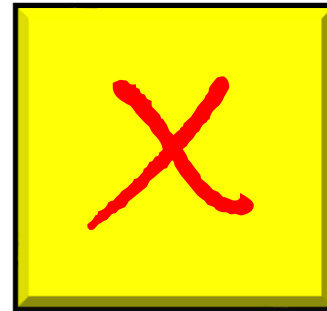




## 1 Point Number Question

- Calculate  $0.3 + 0.6 + 0.4$

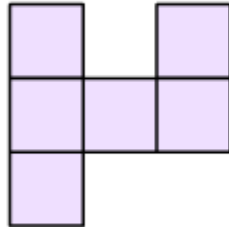
1.3



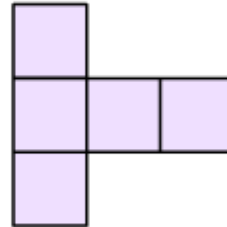
# 1 Point Shape, Space & Measures Question



A

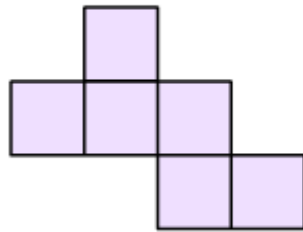


B

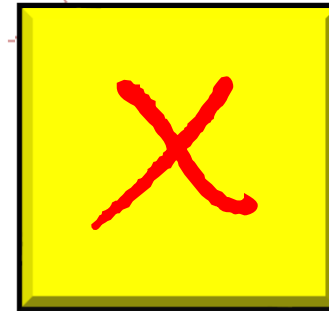
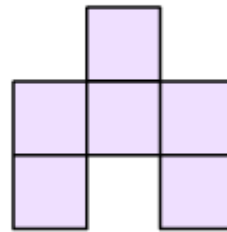


**B**

C



D





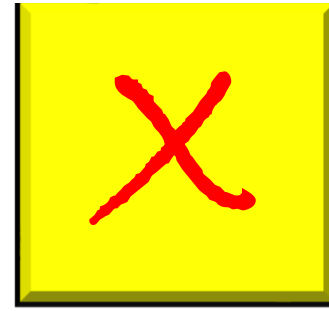
# 1 Point Shape, Space & Measure Question



- Look at this bus timetable. How long does it take the 21:10 bus to get from Far Forest to Upper Cut?

**58 minutes**

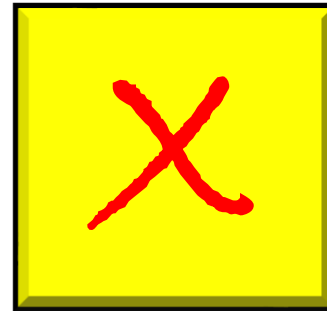
Far Forest	17: 41	19: 52	21:10	23: 28
Long Moor	18: 05	20: 10	21:31	23: 51
High Hill	18: 21	20: 25	21:47	00: 15
Upper Cut	18: 45	20: 49	22:08	00: 36



# 1 Point Pot Luck Question

- Which maths teacher's staff code is GHU?

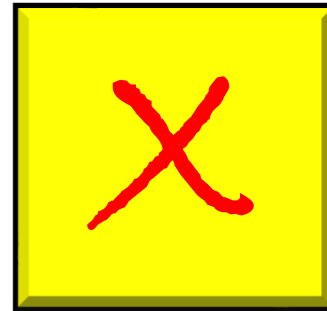
Mr Hurford



# 1 Point Pot Luck Question

- What day contains the morning after the day before yesterday?

**Yesterday**

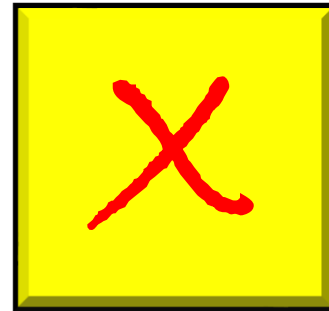


## 2 Point Algebra Question

- Simplify this expression:

$$6a + 2b - 4a + 7b$$

$$2a + 9b$$

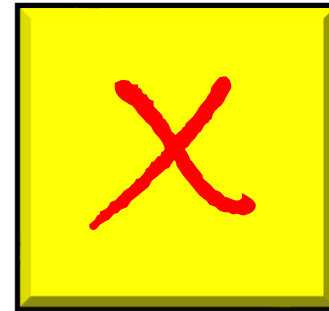




## 2 Point Algebra Question

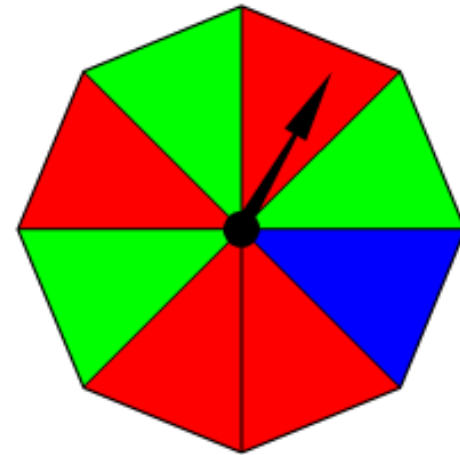
- Calculate the value of  $8p - 5$  when  $p = 7$

51

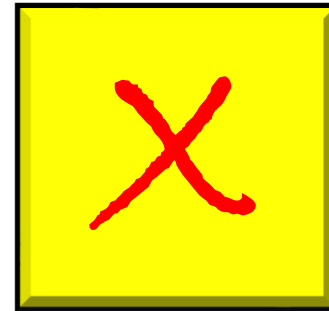


## 2 Point Data Handling Question

- Look at the spinner. What is the probability of it not landing on green?



$\frac{5}{8}$



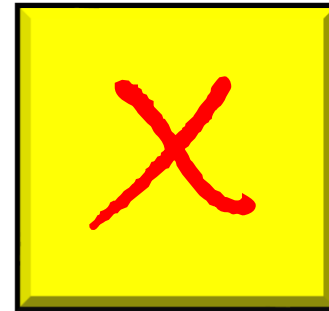
## 2 Point Data Handling Question

- Calculate the mean of these numbers:



6, 10, 5, 9, 4, 8

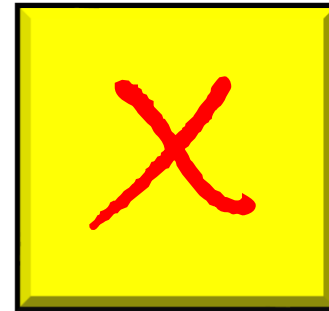
7



## 2 Point Number Question

- What is the highest common factor of 8 and 12?

24



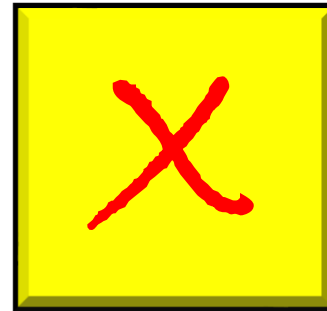




## 2 Point Number Question

- Split £48 in the ratio 5 : 7.

**£20 : £28**



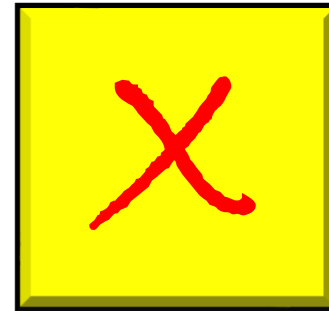
# 2 Point Shape, Space and Measures Question



- Convert 16g into kilograms



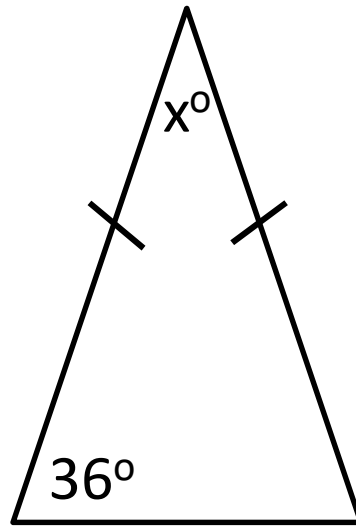
**0.016kg**



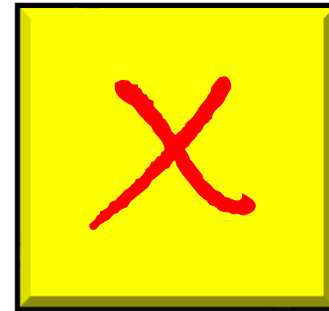
# 2 Point Shape, Space and Measures Question



- Triangle ABC is isosceles. Calculate the value of  $x$ .



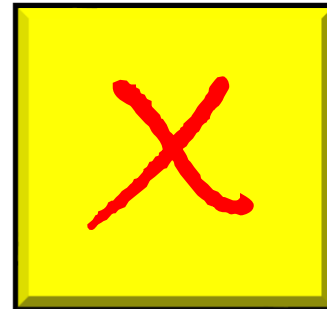
108°



## 2 Point Pot Luck Question

- Say this tongue twister without messing it up:

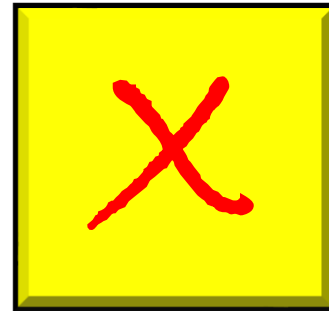
*“Betty bought butter but the butter was bitter,  
so Betty bought better butter to make the bitter  
butter better.”*



## 2 Point Pot Luck Question

- The maths rooms are number MA01 to MA11 but there is one missing. Which one is it?

MA09

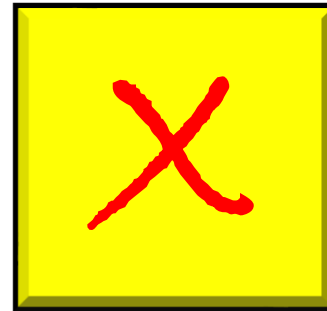


# 3 Point Algebra Question

- Calculate the value of  $x$

$$6x + 15 = 3$$

$$x = -2$$

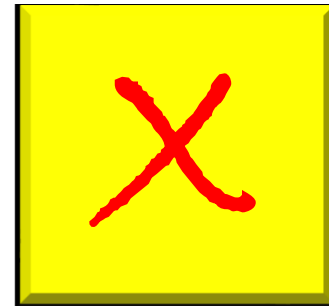
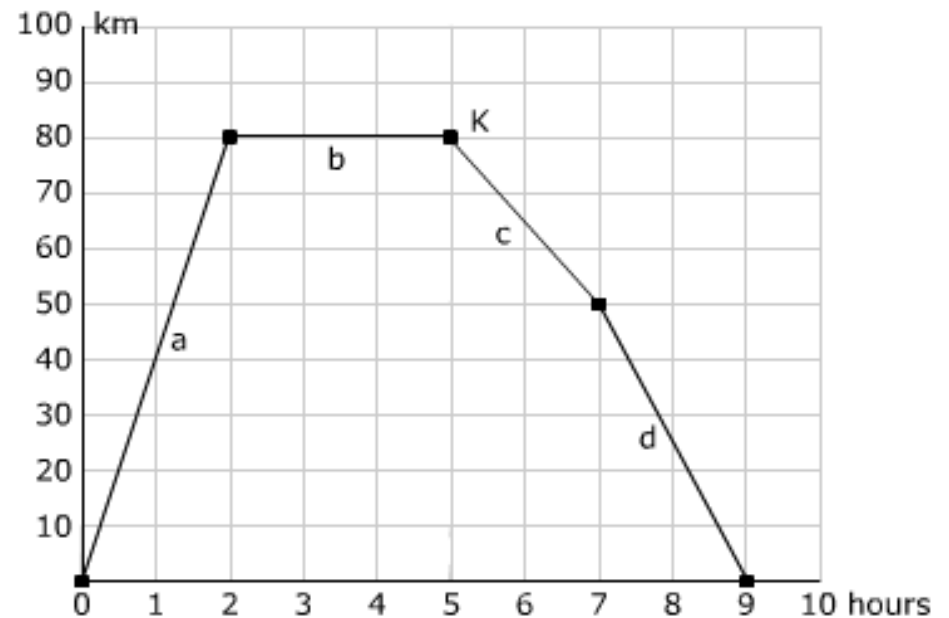




## 3 Point Algebra Question

- Look at the graph on the right. What was his speed during part d of his journey?

25km/h

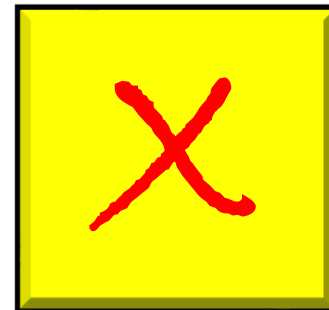


# 3 Point Data Handling Question

- This data is to be put into a pie chart. Calculate the angle for 'Other'

Colour of car	Number of motorists	Angle
Red	8	<input type="text"/> °
Silver	11	<input type="text"/> °
Blue	7	<input type="text"/> °
Other	14	<input type="text"/> °

126°



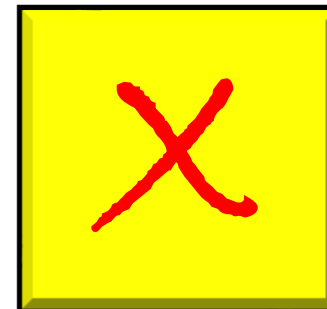


# 3 Point Data Handling Question

- Use the two-way table below to calculate how many **boys** prefer **Chemistry**

35

	Biology	Chemistry	Physics	Total
Girls	30	<input type="text"/>	28	73
Boys	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Total	40	50	<input type="text"/>	166

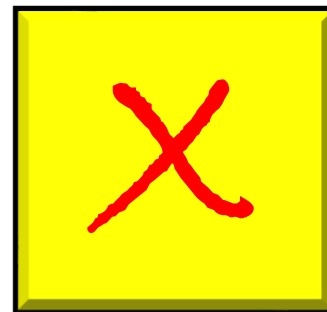




## 3 Point Number Question

- Work out the following, given your answer in its simplest form:

$$\frac{15}{22} \times \frac{44}{45} = \frac{2}{3}$$

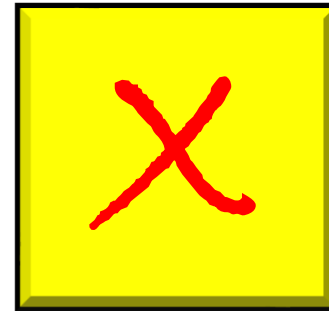




## 3 Point Number Question

- If 6 chocolate bars cost £2.58, how much do 10 chocolate bars cost?

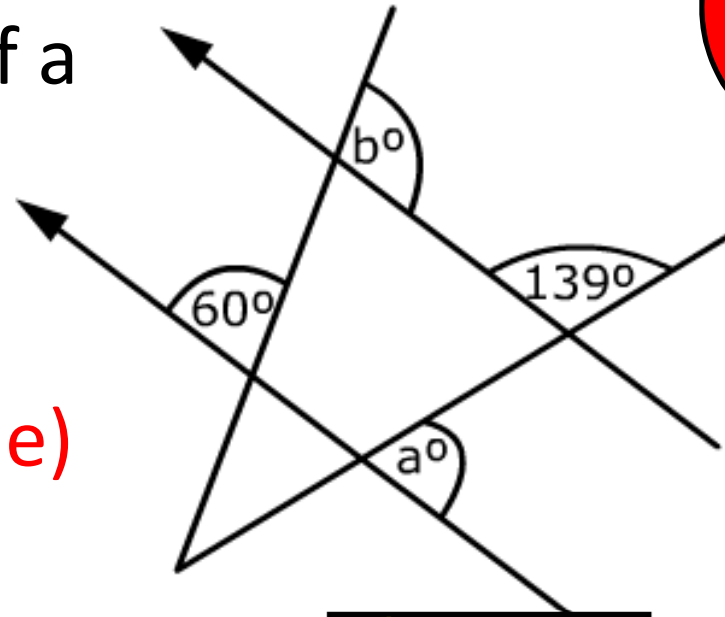
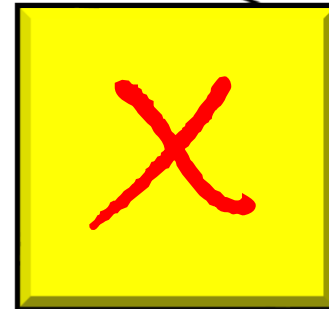
**£4.30**



# 3 Point Shape, Space and Measures Question

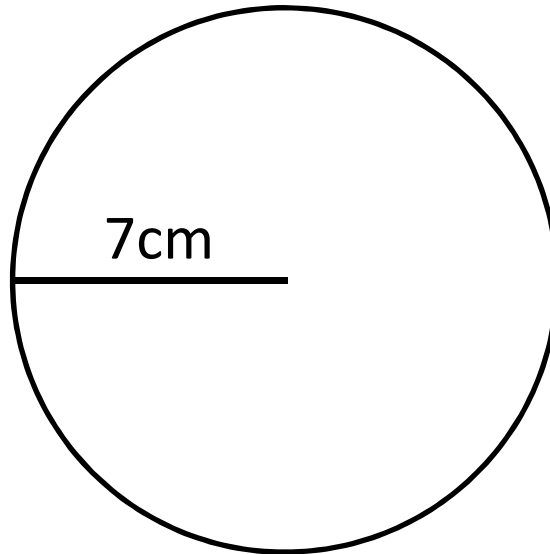
- Calculate the value of  $a$  stating your reason

$a = 41^\circ$  (alternate angle)

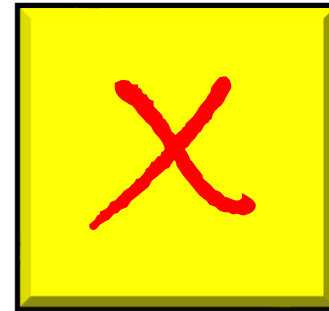


# 3 Point Shape, Space and Measures Question

- Calculate the circumference of this circle. Give your answer to 2dp.



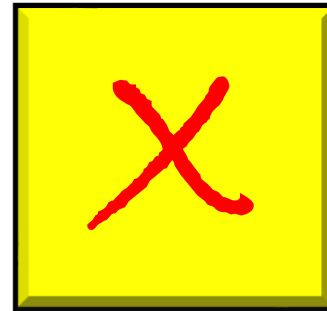
43.98cm (2dp)



## 3 Point Pot Luck Question

- “Priests nearby” is an anagram of which famous pop star?

Britney Spears

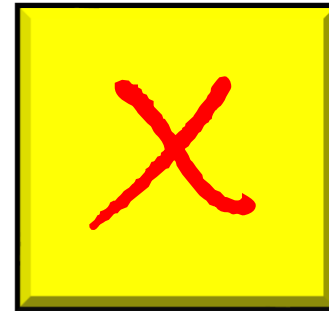




## 3 Point Pot Luck Question

- Calculate  $47 \times 38$

1786



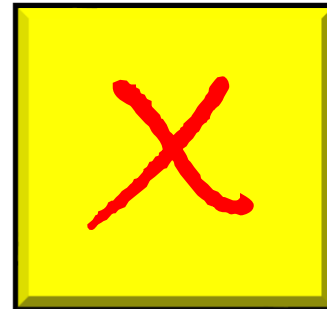


## 4 Point Algebra Question

- Solve this equation

$$7x - 9 = 3(x + 5)$$

$$x = 6$$







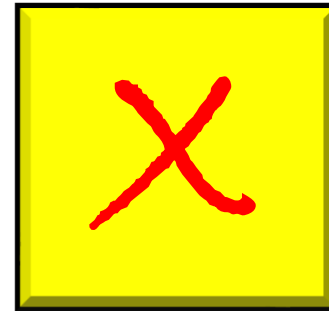
## 4 Point Algebra Question



- Find the nth term of this sequence

4, 7, 12, 19, 28...

$$n^2 + 3$$



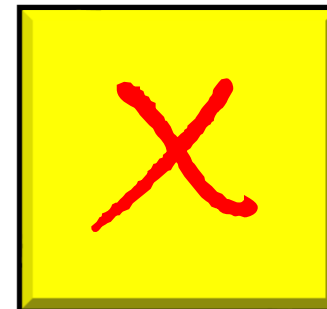
# 4 Point Data Handling Question

- Calculate the median for this stem-and-leaf diagram

Stem	Leaf
1	8 8 8 9
2	1 3 3 5 6 6 7 8
3	0 0 3 4 7
4	0 8 8
5	3 5 8
6	2

29

Key: 1|8 means 18





## 4 Point Data Handling Question



A light company tests samples of its lightbulbs to see how long they last.

The company tests 250 lightbulbs and find that ;

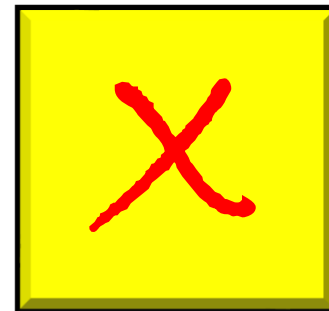
50 last for less than 800 hours

1000

100 last between 800 and 1200 hours

The rest lasted for over 1200 hours

A shop buys 2500 lightbulbs. How many of these should they expect to last over 1200 hours?





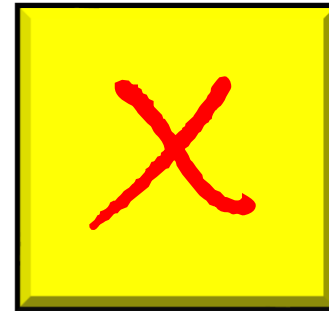
## 4 Point Number Question



- Simplify this expressions

$$\frac{2x^4 \times 6x^7}{3x^5}$$

$$4x^6$$



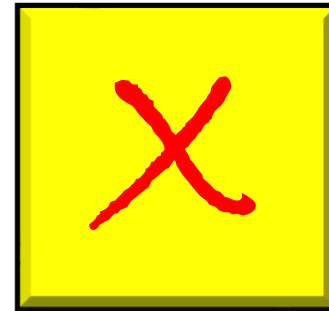


## 4 Point Number Question

- Calculate the following, writing your answer as a mixed number

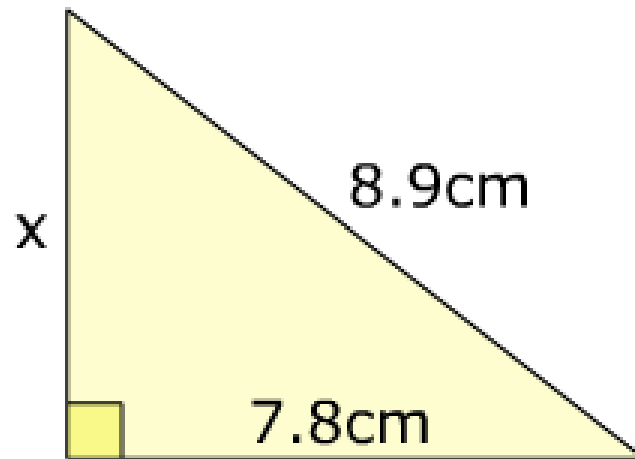
$$4\frac{1}{5} \div 1\frac{19}{30}$$

$$2\frac{4}{7}$$

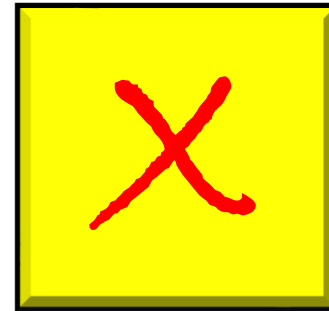


## 4 Point Space, Shape and Measures Question

- Calculate the value of  $x$ . Give your answer to 2dp.



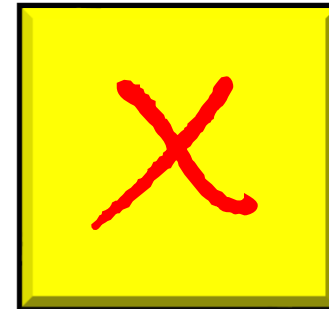
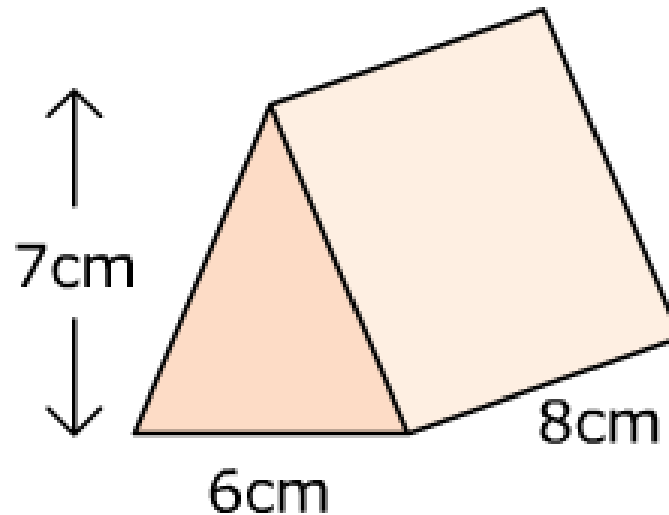
$$x = 4.29\text{cm (2dp)}$$



## 4 Point Shape, Space and Measures Question

- Calculate the volume of the triangular prism.

$$V = 168\text{cm}^3$$



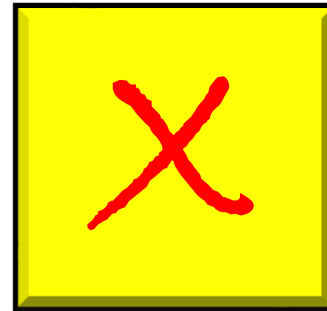


## 4 Point Pot Luck Question

- Expand the following brackets, simplifying your answer fully

$$(3x + 8)(4x - 7)$$

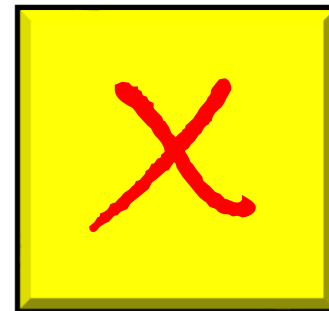
$$12x^2 + 11x - 56$$







## 4 Point Pot Luck Question

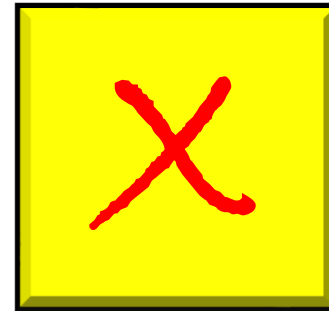




## 5 Point Algebra Question

- M is the midpoint joining the points A (3, 6) and B (9, 18). Write the co-ordinates of point M

M (6, 12)



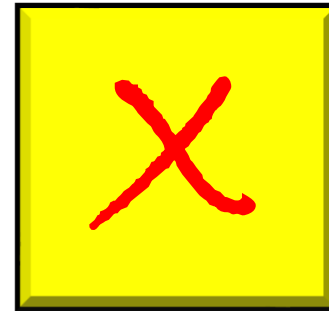


## 5 Point Algebra Question

- Use trial and improvement to find the value of  $x$  correct to 1dp.

$$x^3 + x = 49$$

$$x = 3.6 \text{ (1dp)}$$

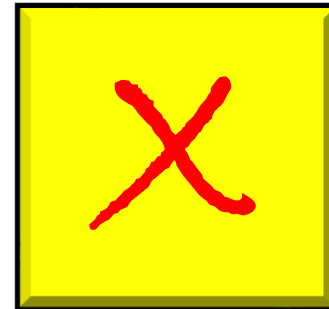


## 5 Point Data Handling Question

- Calculate the interquartile range for the following numbers:

8, 10, 12, 14, 19, 22, 25, 31, 37

17



These are the semi-finals of the 2050 World Cup:

England v Brazil

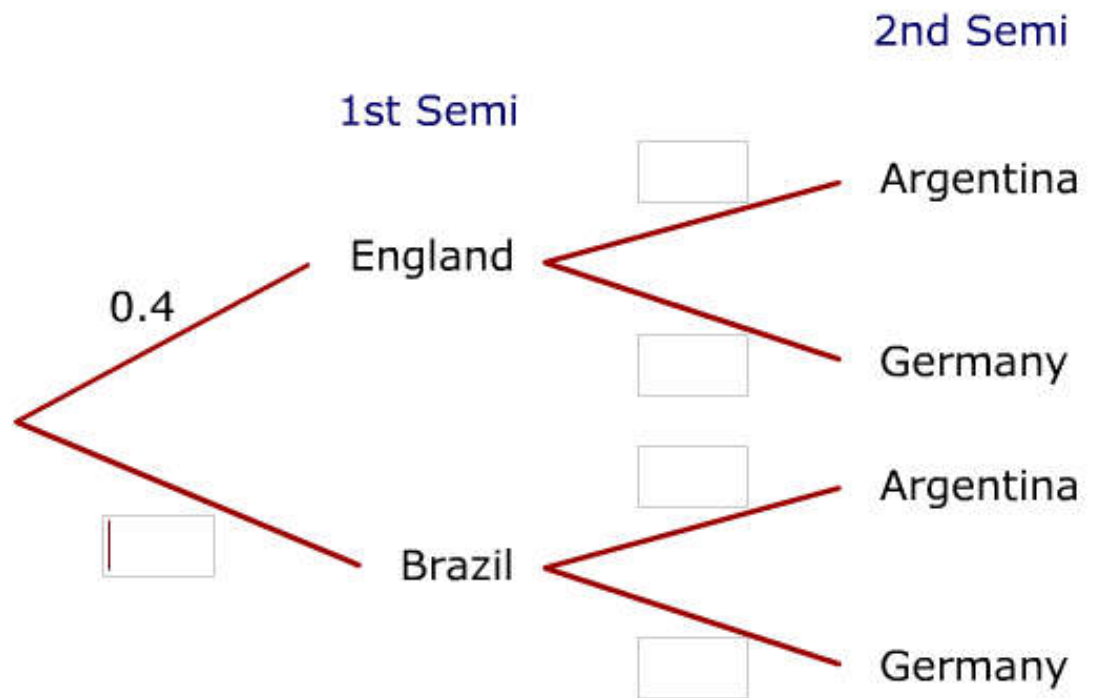
Argentina v Germany

The probability that England reach the final is 0.4.

The probability that Germany reach the final is 0.8.

Complete the tree diagram.

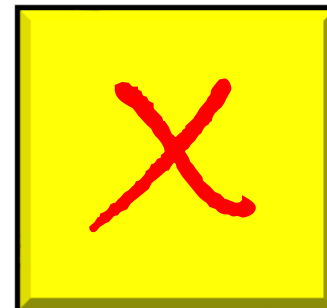
[5]



Work out the probability that the final is between 2 teams from the same continent.

0.44

[3]

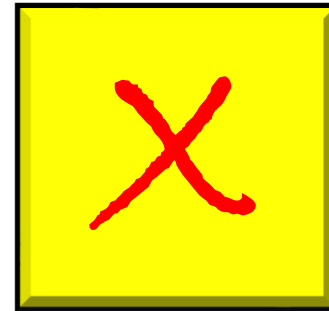




## 5 Point Number Question

- **Solve** the following

$$\frac{5^4 \times 5^3}{5^2 \times 5^8} = \frac{1}{125}$$

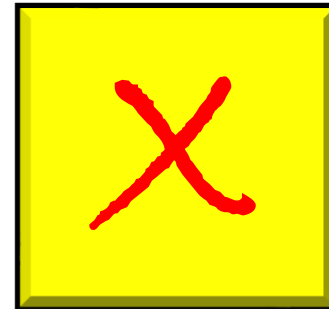




## 5 Point Number Question

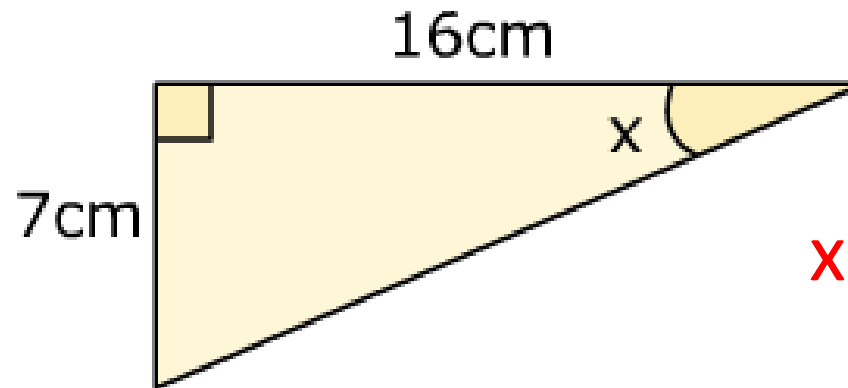
- £16500 is invested in the bank. The bank pays a compound interest rate of 6.3%. How much will be in the bank after 4 years?

**£21067.69**

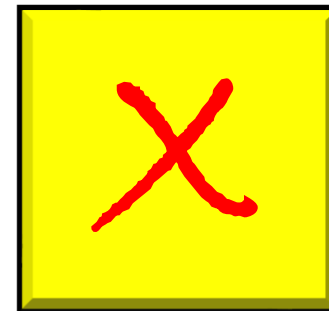


## 5 Point Shape, Space and Measures Question

- Calculate the value of  $x$ . Give your answer to 2dp.



$$x = 23.63^\circ \text{ (2dp)}$$

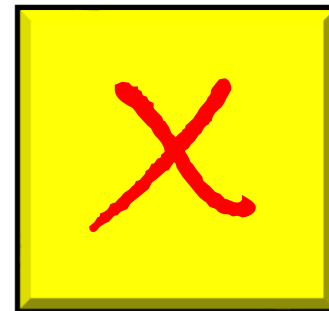




## 5 Point Shape, Space and Measures Question

- A kite is flying at an angle of elevation of about  $40^\circ$ . All 80 metres of string have been let out. Ignoring the sag in the string, find the height of the kite.

51.42m (2dp)

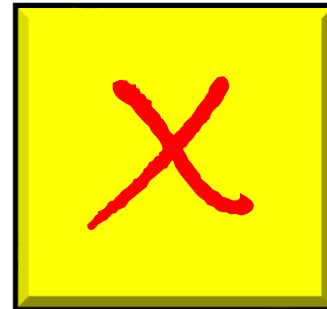




## 5 Point Pot Luck Question

- Name 5 members of the UK Government's cabinet

[Click for answer](#)





## 5 Point Pot Luck Question

- Name 5 elements in the periodic table beginning with the letter C

[Click for answer](#)

