STIRLING TUITION

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Lesson 18 Homework

Name: _____

Day	Completed
1	
2	
Test	_____ / 12

Day 1 Homework (Refer to Video Explanations Lesson 18 for Examples)

$9 + 7 + 21 = (37) = \text{Total}$

1) There are 9 red roses, 7 yellow roses and 21 white roses in a vase.

Ben takes a rose, at random, from the vase.

(a) Write down the probability that he takes a yellow rose. $\frac{7}{37}$

(b) Write down the probability that he takes a yellow or a white rose. $7 + 21 = 28$ $\frac{28}{37}$

(c) Write down the probability that Ben does not take a white rose. $9 + 7 = 16$ $\frac{16}{37}$

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2) There are only pink, yellow, green and blue counters in a bag.

The table shows the probability that a counter taken at random from the bag will be pink, green or blue.

Colour	Pink	Yellow	Green	Blue
Probability	$\frac{5}{24}$	$\frac{1}{4} = \frac{6}{24}$ (×6)	$\frac{3}{8} = \frac{9}{24}$ (×3)	$\frac{1}{6} = \frac{4}{24}$ (×4)

Work out the probability that the counter taken is Pink.

$\frac{6}{24} + \frac{9}{24} + \frac{4}{24} = \frac{19}{24}$

Yellow Green Blue

$\frac{5}{24}$

$\frac{24}{24} - \frac{19}{24} = \frac{5}{24}$

Total Yellow Green Blue Pink

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3) Gemma has a biased spinner.

A spinner has sections labelled 1, 2, 3, 4 and 5.

The table below shows information about some of the probabilities

Number	1	2	3	4	5
Probability	y 0·22	0.13	0.28	0.31	0.06

Work out the value of y.

0·13 = 2
0·28 = 3
0·31 = 4
+ 0·06 = 5
0·78 = 2,3,4,5

1 0·9 1 0
1 − 0·78 = 2,3,4,5
0·22 = 1

0·22

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4) A bag contains 120 coloured counters.

The counters are green, black or orange.

There are 47 black counters in the bag.

The probability that a orange counter is chosen from the bag is 0.2. = $\frac{1}{5}$ or $\frac{2}{10}$

Calculate the number of green counters in the bag.

47 = Black
+ 24 = orange
71

Black = 47 Orange = 24

120
×0.2
24.0

+2
or ÷10 of 120 = 24

(Your choice)

1 1 1 0
120 − 71 = Black + Orange
49 = Green

49

Proofreading Task: (Discussion-Balanced Argument)

Read the text below:

- Find **4 spelling mistakes**
- Find **3 places that need full stops**
- Find **3 places that need capital letters**
- Find **4 places that have the incorrect verb form**

Correct the mistakes on the text below.

Should dogs be kept on leads in parks?

Most parks allow dog owners to **walk** their dogs on the fields for free. For many years there has been great debate about **whether** or not dogs should be kept on leads during this time.

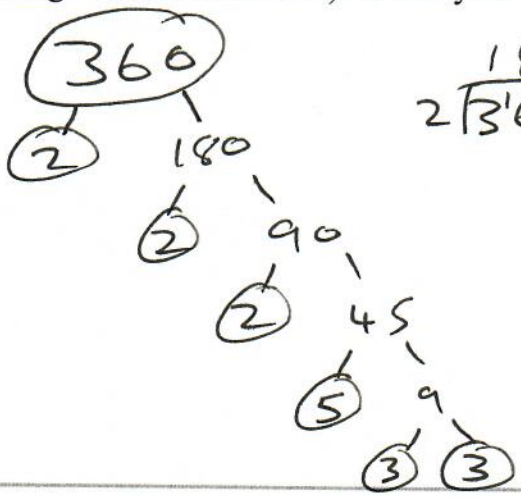
Firstly, it is far safer for children playing in the park if the dogs are kept on their leads; some dogs may be aggressive therefore they are more likely to bite humans. It is known that 50% of children, mostly boys, are bitten by a dog each year. In addition to this, if a dog is kept on their lead they are less likely to **run** away. When using a lead the owner is able to keep their dog at their side at all times. **Shockingly**, over 500,000 dogs in the United Kingdom go missing each year due to owners not using leads. Also, the majority of cats are frightened of dogs. If dogs are kept under control then cats are also able to freely explore and exercise in the park. Studies have shown that cats appear more comfortable to leave their house and garden when dogs are restricted by a lead.

On the other hand, it is very well understood that dogs require exercise every day. Therefore, dogs need the space and freedom to run around and fully exercise their body. This is not possible when being held on a lead because dogs are able to run three times as fast as humans. Furthermore, dogs need to be able to **socialise** with other dogs. This allows them to build friendly relationships with other canines. Research suggests that dogs are less aggressive when they frequently interact with other dogs. Finally, many people believe the use of leads to be cruel. This is because there is the risk of **choking** if a dog tries to run. Dogs are well known for suddenly bursting into a sprint when they see something of interest; therefore the collar and lead around their neck could be dangerous.

In **conclusion**, I feel that dogs should be kept on a lead when in public parks, especially at peak times, as this is much safer for both humans and dogs. Ideally, there should be areas **created** especially for dogs within all parks.

Day 2 Homework

Write **360** as a **product of primes** (starting with the smallest). Write your answer in the space below in **index form**.



180
2|360

$2^3 \times 3^2 \times 5$

Find the **simple interest** when **£156** is invested at ~~8%~~ for **9 years**.

$\frac{8}{100}$

$\div \frac{8}{100}$ of 1.56 = 12.48

$\times 8$

12.48

12.48 × 9

£112.32

£112.32

Paula goes to the cinema to watch the latest release with her family. The movie **lasted** for **1 hour and 51 minutes** and **finished at 8:12pm**. What time did the movie **start**? Write your answer below in **24-hour time**.

20:12

120 : 12

− 1 : 51

18 : 21

18:21

Find the nth term for the sequence below:

+6 −6 −6 −6

(H1) 5, -1, -7, -13,

$-6n+11$

Solve the equation below:

$9n + 14 = 6n + 29$

$-6n$

$3n + 14 = 29 - 14$

-14

$29 - 14 = 15$

$3n = 15$

$\div 3$

$n = 5$

n = 5

Work out the circumference and area for the following circle.
Give your answers to 1 decimal place **using a calculator**.

A circle with diameter 12cm

$12 \div 2 = 6 = \text{Radius}$

$\pi \times 12 = 37.69$

$\pi \times 6^2 = 113.09$

$\pi d = C$

Circumference: 37.7 cm

$\pi r^2 = A$

Area: 113.1 cm^2

There are 150 chocolates in a box.

Some of the chocolates contain nuts and the rest do not.

The probability that a chocolate not containing nuts is picked at random from the box is 0.7.

How many of the chocolates in the box contain nuts?

$0.3 = \frac{3}{10}$

$1.0 = \text{Total}$

$-0.7 = \text{No Nuts}$

$0.3 = \text{Nuts}$

$150 \times 0.3 = 45$ or $\frac{3}{10}$ of $150 = 45$

45

(Your Choice)

$15 \times 3 = 45$

English Writing Task (30 minutes)

Write an argument about whether or not having more things makes you happier? (Look at the example in Homework Day 1).

1) **Introduction to argument-summary.**
2) **Arguments for, with information.**
3) **Arguments against, with information.**
4) **Conclusion, summary of key points.**
5) **Your own viewpoint.**

Take a picture of the writing and send it Sam (07743437053) via What's app to receive feedback 😊)

Progress Test (Score ____/12)

1) Victoria is organising a charity raffle.

She sells 470 tickets for £3 each.

The probability that someone wins a prize is $\frac{1}{5}$ or 0.2

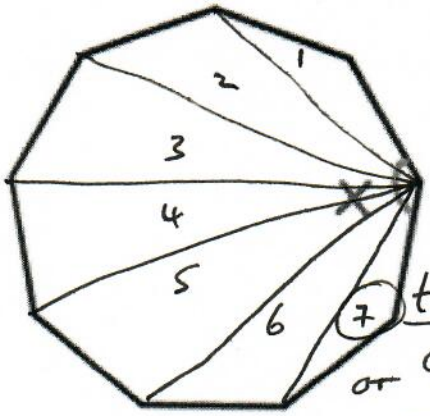
Each prize cost £5

The profit is donated to charity.

Work out how much money Victoria donates to charity.

£ 940

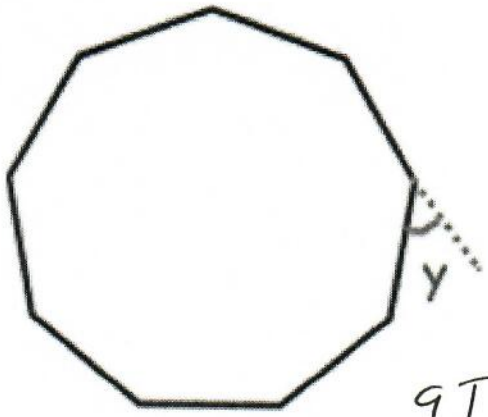
2)



regular nonagon

x = 140 °

3)



regular nonagon

y = 40 °

4) $56 \div -7 = -8$

5) $-11 + -5 = -6$

6) $\frac{3}{5} + 1\frac{5}{6} = \frac{73}{30}$ or $2\frac{13}{30}$

$\frac{3}{5} + \frac{11}{6}$ (×6 ↓, ×5)

$\frac{18}{30} + \frac{55}{30} = \frac{73}{30}$

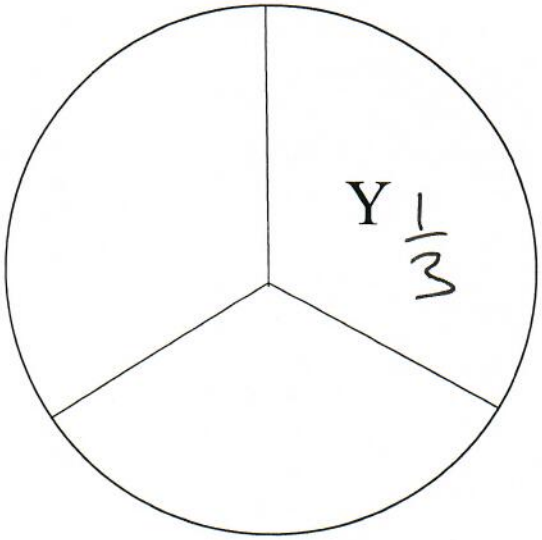
$\begin{array}{r} {}^{1}55 \\ +18 \\ \hline 73 \end{array}$

7) $1\frac{5}{8} \times \frac{4}{1} = \frac{52}{8}$ or $6\frac{4}{8}$ or $6\frac{1}{2}$

$\frac{13}{8} \times \frac{4}{1} = \frac{52}{8}$

$\begin{array}{r} {}^{1}13 \\ \times 4 \\ \hline 52 \end{array}$

8)



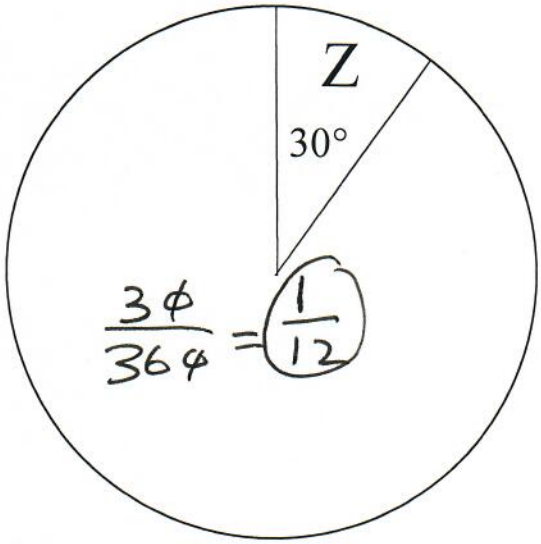
Total = 12345

X = 4115

$\frac{1}{3}$ of 12345

$\begin{array}{r} 4115 \\ 3\overline{)12345} \end{array}$

9)



Total = 144

Z = 12

$\frac{1}{12}$ of 144 = 12

10) It costs **£4.32 for 2.25kg** of butter. How much does it cost for **500 grams** of butter? Write your answer in the space below.

$\begin{array}{r} 0.48 \\ 9\overline{)4.^{3}32} \end{array}$

£4.32 = 2.25kg (÷9 ↓)

£0.48 = 250g (×2 ↓)

£0.96 = 500g

£ 0.96

$\begin{array}{r} {}^{1}48 \\ \times 2 \\ \hline 96 \end{array}$

Round the number below to 2 Significant Figure

11) 0.0000~~7~~069 (1st, 2nd) 0.000071

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12) Divide 1845 in the ratio 7 : 3 : 5 = 15 861 : 369 : 615