Year 5/6

Resource Booklet

Name: ……

Open the Box

I can solve problems with more than one step.

1. Kieran needs to run 2500 metres. In the first ten minutes he runs 639 metres and in the second ten minutes he runs 794 metres.
How much further does he still need to run?

Show your workings.

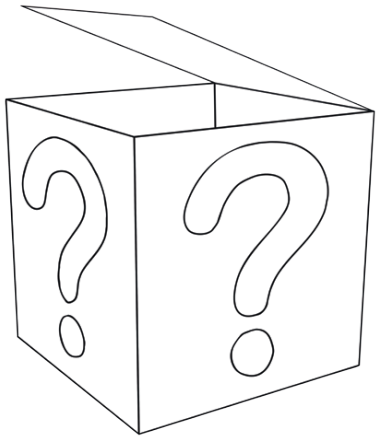
_____

2. Chocolate bar: £1.39
Pack of marshmallows: £2.47
Packet of sweets: £1.76
Special Offer: Any three items for £4.10
How much money will Len save by buying one of each item using the special offer?

Show your workings.

_____

3. Yuan and Chan are trying to find out how many star jumps they can do in two minutes. In the first minute, Yuan completes 48 star jumps and in the second minute, he completes 56 star jumps. Chan completes 184 star jumps in two minutes.
What is the difference between the amount of star jumps completed by Yuan and Chan?



Show your workings.

_____

4. Mrs Flood has 1938 pencils at the beginning of the school year. In term one, 348 pencils are used and in term two, 827 pencils are used.
How many pencils are left remaining to use in term three?

Show your workings.

_____

5. Fish: £3.55
Chips: £1.29
Gravy: £0.75
Peas: £0.90
Nigel has £5. He wants to buy fish, chips and peas.
How much more money will Nigel need?

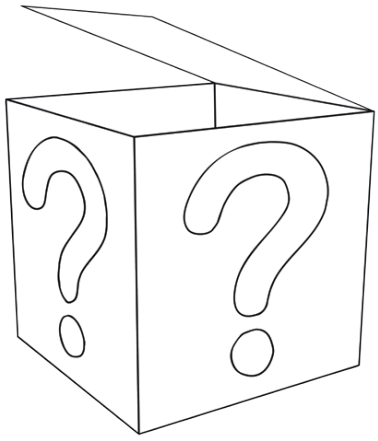
Show your workings.

_____

6. A bottle holds two litres of freshly squeezed orange juice. Denver fills three glasses with orange juice. He puts 170 millilitres in each glass.
How much orange juice is left in the bottle?

Show your workings.

_____



Open the Box

I can solve problems with more than one step.

1. Toy car: £12.49
Board game: £25.38
Building blocks £34.39
Amil and Rikard want to buy one of each toy. Amil rounds the price of each toy to the nearest £10 and adds them together. Rikard adds the exact price of each toy together.
What is the difference between Amil's and Rikard's total?

Show your workings.
Circle the correct answer. £2.26 £0.26 £12.26

2. Woolly hat: £11.75
Gloves: £4.95
Aydin has a twenty-pound and a ten-pound note.
How much change will he receive if he buys two woolly hats and a pair of gloves?

Show your workings.
Circle the correct answer. £1.25 £1.65 £1.55

3. Miley and James each have some money. Altogether, they have £3.20. Miley gives James 20p so that they both have the same amount.
How much money did they each have at the start?

Show your workings.
Circle the correct answer. Miley: £1.80 James: £1.40 Miley: £1.70 James: £1.50 Miley: £1.70 James: £1.70

4. Class A has a race. Kat's time is 47 seconds. Charlie finishes nine seconds before Kat. Maria finishes 14 seconds after Charlie. Birkir finishes 26 seconds before Maria. What is Birkir's time in seconds?

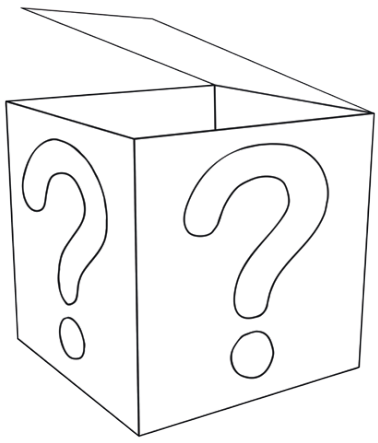
Show your workings.			
Circle the correct answer.	62 seconds	26 seconds	34 seconds

5. Cookies: £0.75 each
Buns: £0.90 each
Serji bought some cookies and buns. He spent £4.20.
How many of each item did he buy?

Show your workings.		
Circle the correct answer. Four buns and one cookie	Three buns and two cookies	Seven cookies

6. Phoebe bought a ruler and a pencil. She paid £1.45. Leoh bought a ruler and two pencils. She paid £1.80.
How much does a ruler cost?

Show your workings.			
Circle the correct answer.	£0.75	£0.35	£1.10



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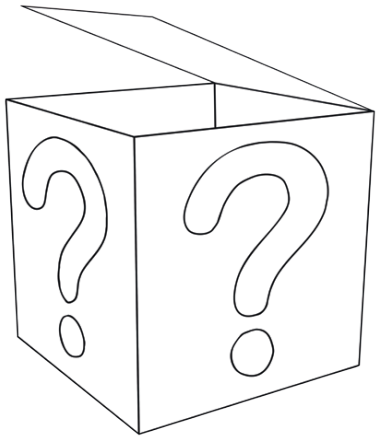

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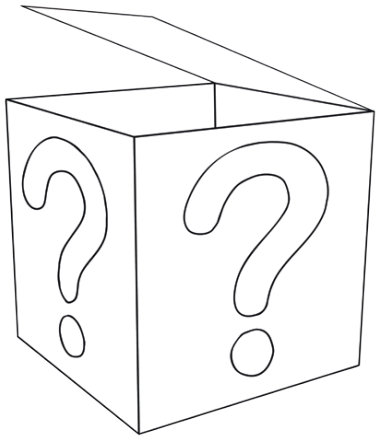
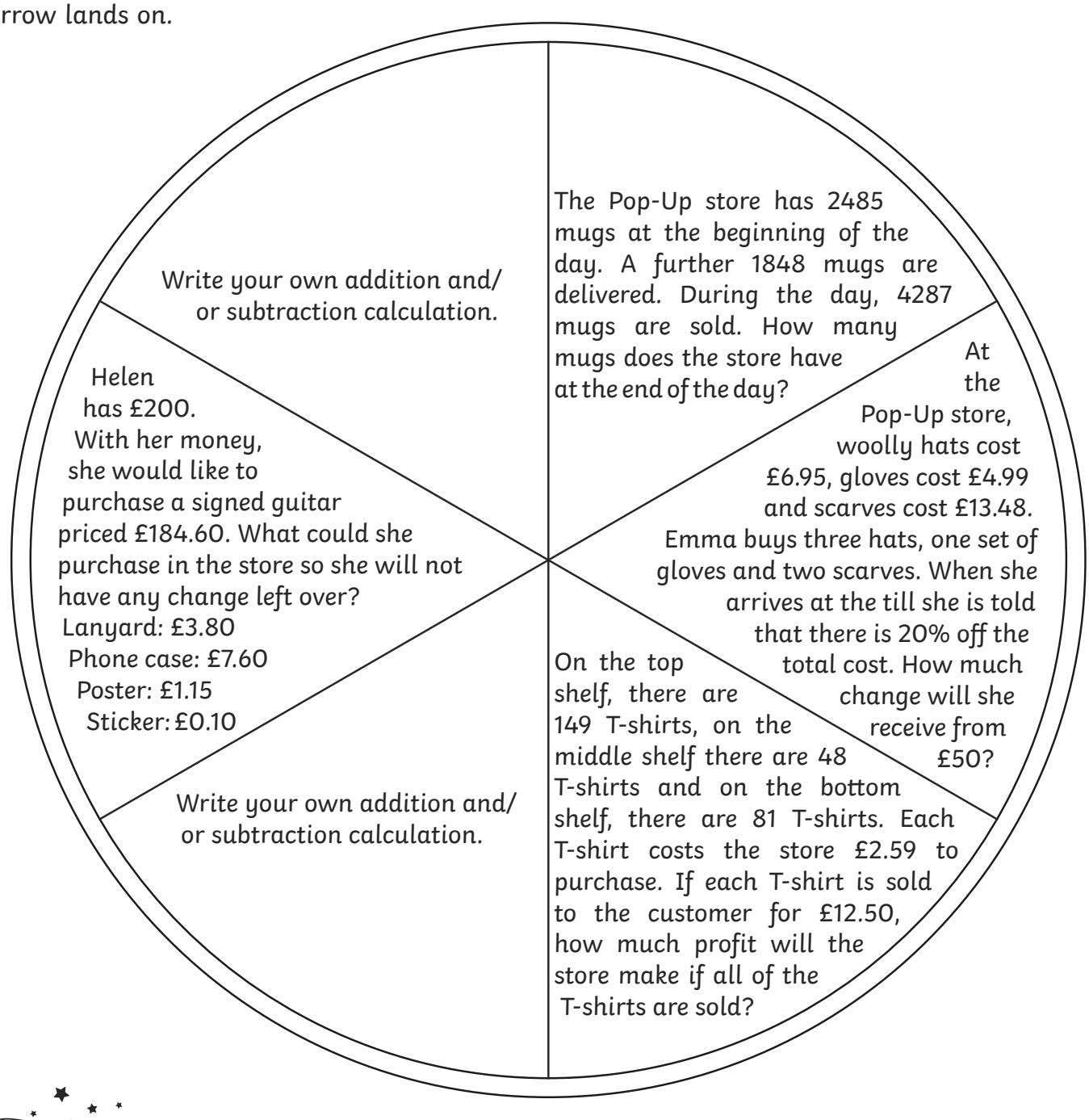


Extra Challenge

I can select the correct operation to use.

Complete and cut out the spinner and arrow. Attach the arrow using split pin to the centre of the spinner. Taking turns with a partner, spin the arrow and complete the question that the arrow lands on.



Question	Operation/s Required to Complete the Calculation	Working Out	Answer

Tuesday 7th July

Maths-Whizz Teachers' Resource

Name: . . . . . Class: . . . . . .

Mental Calculation Strategies - multiplication and division

Draw lines to match the calculations with their answers.

Q1	(2 + 3) x 4	2 + (3 x 4)	Q2	(5 x 2) + 3	5 x (2 + 3)
	14	20		13	25
Q3	(8 ÷ 4) - 2	8 ÷ (4 - 2)	Q4	(60 - 15) ÷ 3	60 - (15 ÷ 3)
	0	4		55	15

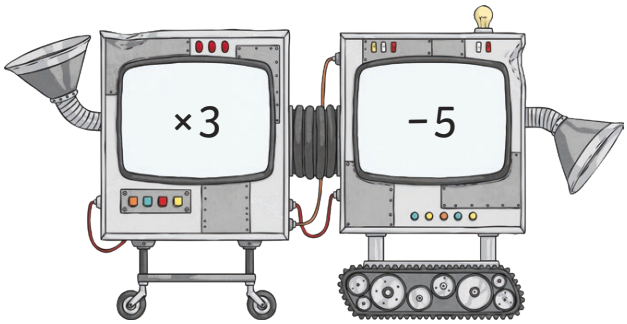
Find the answers to these calculations.

Q5	(2 + 3) x 4 =		Q6	4 + (5 x 3) =	
Q7	(6 + 3) x 4 - 2 =		Q8	6 + (3 x 4) - 2 =	
Q9	6 + 3 x (4 - 2) =		Q10	4 + 4 ÷ (2 - 1) =	
Q11	4 + (4 ÷ 2) - 1 =		Q12	(4 + 4) ÷ 2 - 1 =	
Q13	3 + 24 ÷ (3 + 5) =		Q14	(3 + 24) ÷ 3 + 5 =	
Q15	3 + (24 ÷ 3) + 5 =		Q16	(24 - 4) x 5 - 3 =	
Q17	24 - (4 x 5) - 3 =		Q18	24 - 4 x (5 - 3) =	

Each of these function machines has two steps. Give the missing inputs and outputs for each machine.

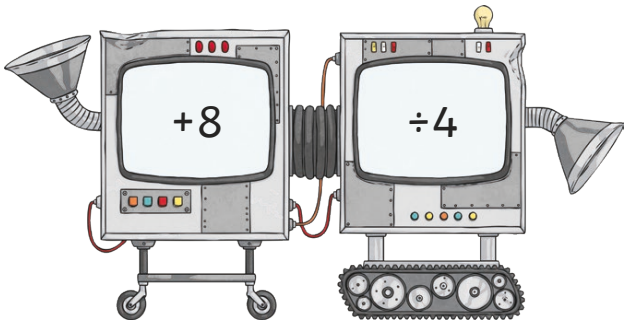
1)

Input	Function	Function	Output
12			c)
2000			d)
7.2			e)
a)			7
b)			199
$2\frac{1}{4}$			f)



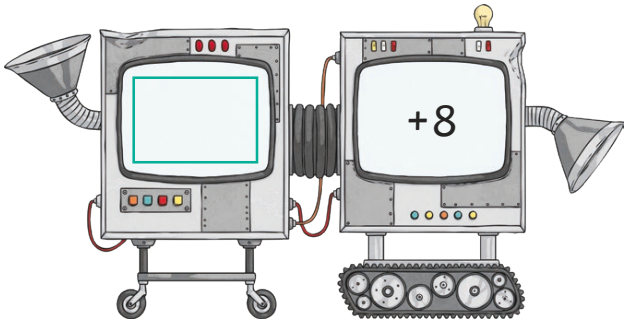
2)

Input	Function	Function	Output
20			c)
72			d)
132			e)
a)			6
b)			16
0.8			f)

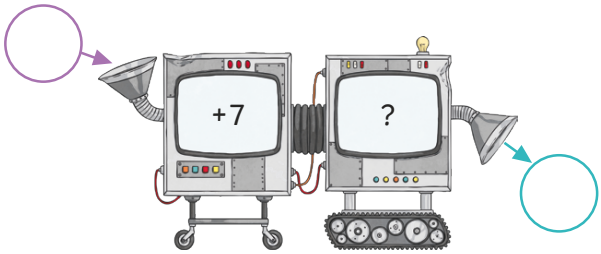


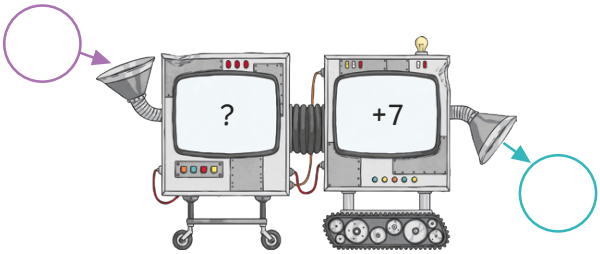
3) Give the missing function and missing inputs for this two-step function machine.

Input	Function	Function	Output
12			11
20			13
a)			14
b)			88
c)			9.2
d)			17.75



4) Look at these two-step function machines.





Do you agree or disagree with each child's statement? Explain why.

Ruby

If I add the function −6 into both function machines then both machines will give the same answer.

Leo

If I add the function ×4 as the missing function in both machines, they will both give the same answer.

Jumping Sequences

I can generate and describe linear number sequences.

Find the rule that describes the distance of each creature's jump. Be careful! None of the creatures start jumping from zero! Write the distances reached by the next four jumps **in metres**. Use the formula to find the value of the final missing jump.

START	27cm	50cm	73cm	96cm

Jumping rule = _____

formula = (23 × jump number) + 4

Jump 5	Jump 6	Jump 7	Jump 8	Jump 53

START	2.5m	4m	5.5m	7m

Jumping rule = _____

formula = (1.5 × jump number) + 1

Jump 5	Jump 6	Jump 7	Jump 8	Jump 76

START	155cm	275cm	395cm	515cm

Jumping rule = _____

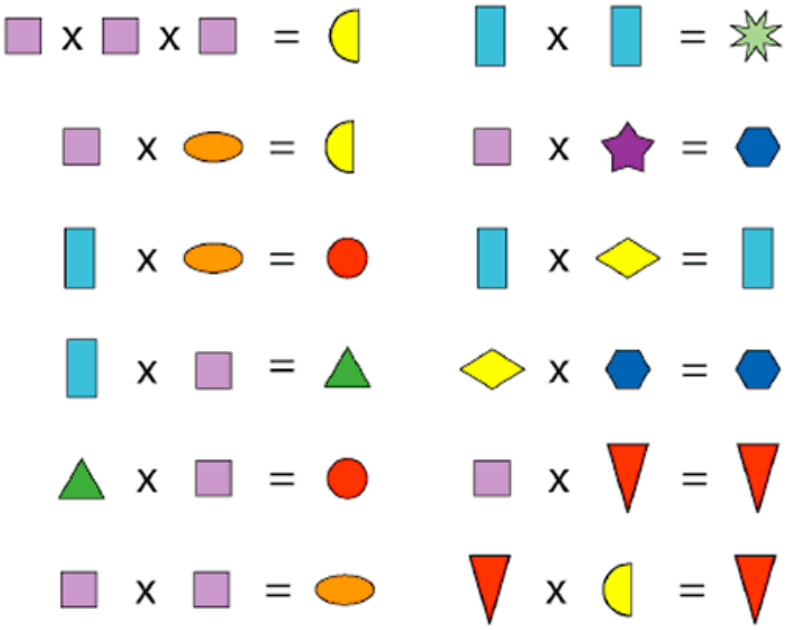
formula = (120 × jump number) + 35

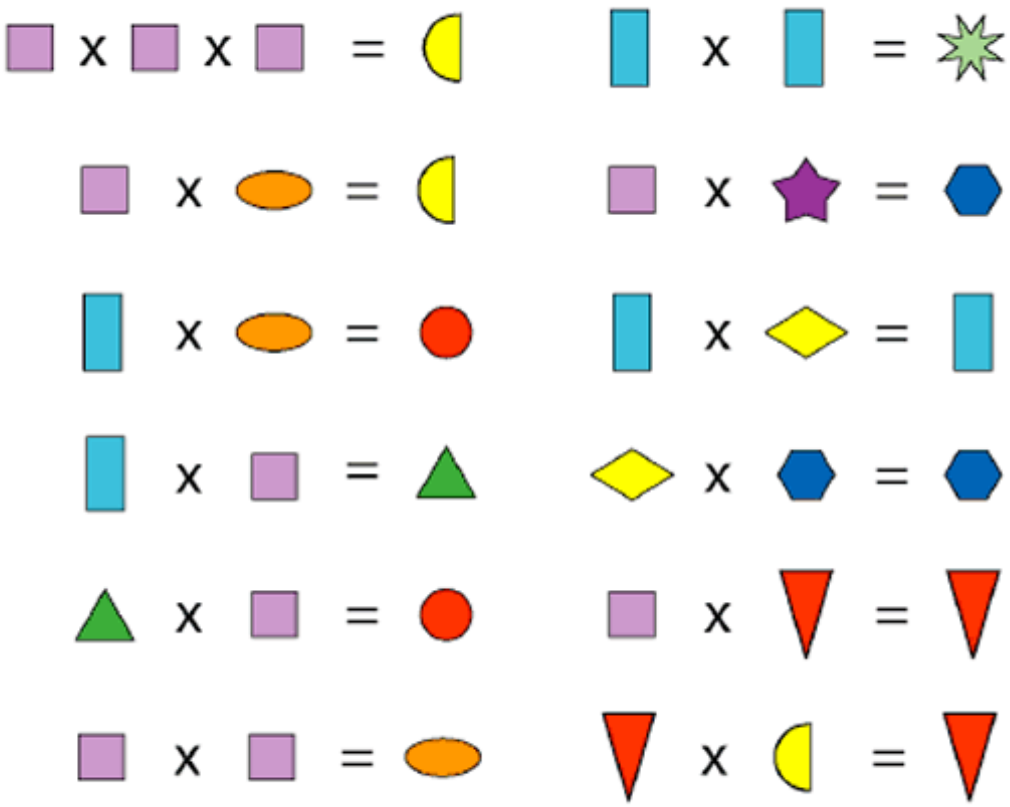
Jump 5	Jump 6	Jump 7	Jump 8	Jump 85

Shapes Times Shape

The coloured shapes stand for eleven of the numbers from 0 to 12. Each shape is a different number.

Can you work out what they are from the multiplications below?





Put operations signs (+ or − or × or ÷) between the numbers 3, 4, 5, 6 to make the highest possible number and lowest possible number.

How about trying with numbers 1, 2, 3, 4, 5 and 6?

The Theatre Problem

Mr Thorpe was opening a new theatre in Northampton. The theatre was 43m long and 27m wide.

The stage was as wide as the theatre and had a total area of 324 metres squared.

The orchestra pit was also as wide as the theatre and had a total area of 81 metres squared.

Mr Thorpe needs to know how many seats he can fit in the remaining space. Each seat is 50cm long and 50cm wide. There must also be 50cm of space between each row as legroom.

Question 1: How many rows of seats can Mr Thorpe have in his theatre?

Because of fire safety regulations, there must be an aisle running down the middle of the theatre. This aisle is 3m wide. There must also be an aisle on each side. These are 1m wide.

Question 2: How many seats can Mr Thorpe have in each row?

Question 3: How many seats can Mr Thorpe have in the whole theatre?

Mr Thorpe decides to charge £30 per seat in the first 6 rows, £20 per seat in the next 6 rows and £10 per seat in all the other rows.

Question 4: How much money will Mr Thorpe make from each performance if the theatre is sold out?

Mr Thorpe has the following expenses when putting on a performance:

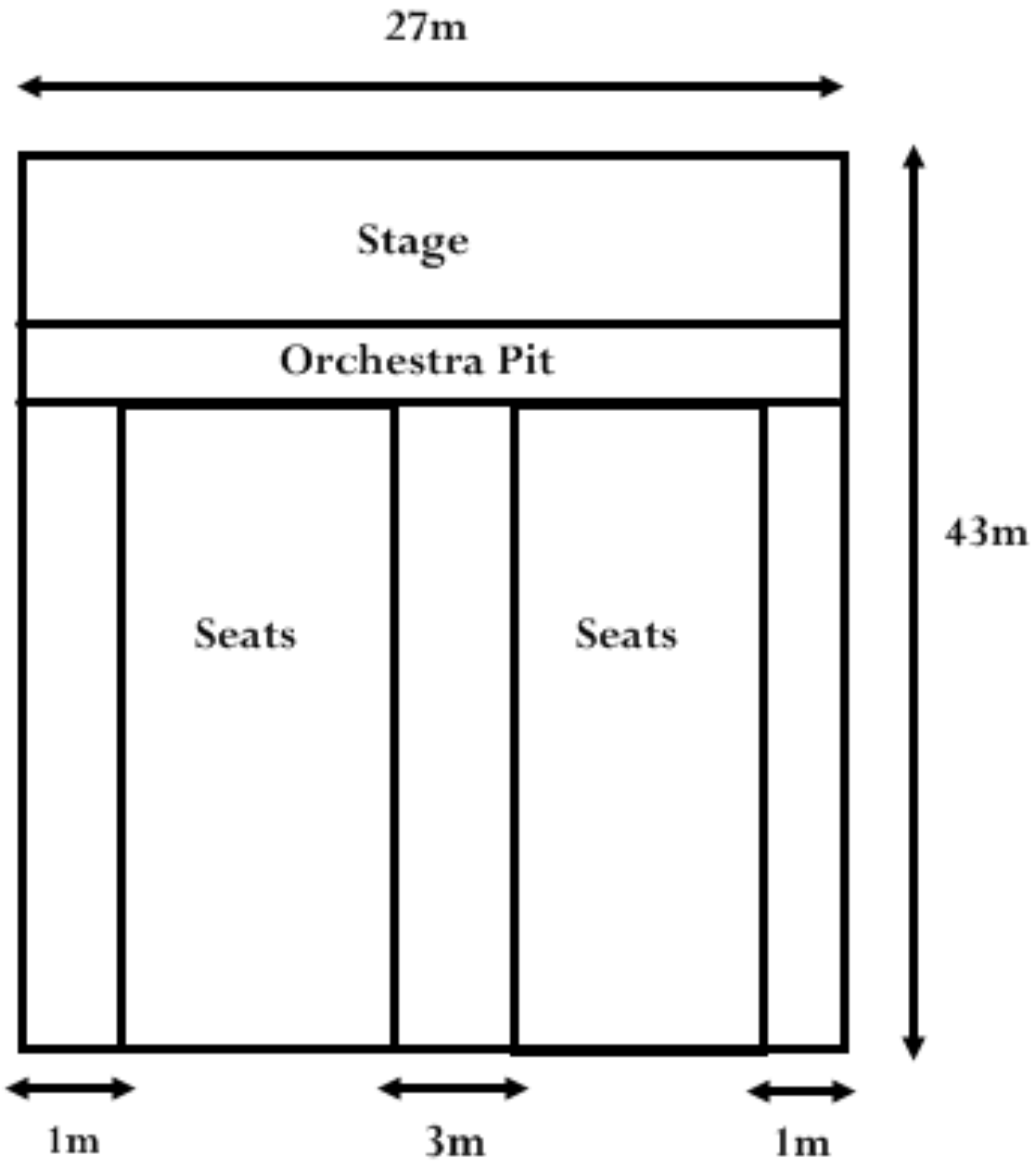
Expense	Cost for each performance
Actor's salaries	£8321.17
Musician's salaries	£1437.85
Lighting	£1652.79
Sound	£1528.92
Costumes	£3832.45
Theatre rent	£1000.00
Publicity (posters, adverts etc.)	£3326.73

Question 5: What is the total of expenses for each performance?

Question 6: Does Mr Thorpe make a profit or a loss on each performance? How much does he gain/lose?

Mr Thorpe needs to adjust ticket prices to make more money. He can only alter the top price tickets.

Question 7: What is the minimum ticket price he must charge on a top price ticket to make a profit of at least £500 per show? <u>You could use calculators for this question.</u>


27m
Stage
Orchestra Pit
Seats
Seats
43m
1m
3m
1m