



Starter.

1. Four teams, City, Rovers, Town and United play competition to win a cup. Only one team can win.

City	Rovers	Town	United
0.38	0.27	0.15	x

x =

2. The probability that a biased dice will land on a four is $\frac{1}{5}$. Pam is going to roll the dice 200 times. Work out an estimate for the number of times the dice will land on a four.

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Top Tips!

Probability Always out of 1 , 100%

Expected Probability = Probability x Frequency

Probability game problems

1. Find the number of winners (*expected probability*)
2. Find the Income
3. Find the outgoings (Payout)
4. Find the profit

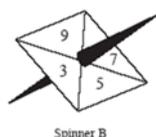
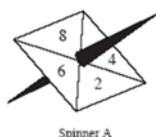
Skills:

1. Sanej throws two fair dice. He scores a double one. Calculate the probability of scoring a double one when two fair dice are thrown. \ [2]

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2. Spinner A has four equal sections numbered 2, 4, 6 and 8. Spinner B has four equal sections numbered 3, 5, 7 and 9. In a game both spinners are spun and the two numbers obtained are multiplied together to give the score.



Complete the following table to show **all** the possible scores.

Spinner B	9	18	36	54	72
	7	14	28	42	56
	5	10	---	---	---
	3	6	---	---	---
		2	4	6	8
		Spinner A			

b) Find the probability that the score is less than 20.

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Examination Question:

FT – Nov 14 P1 Q11

In a game, a player rolls a coin onto a board marked out in squares. The squares on the board are coloured red, blue or green. If the coin lands entirely within one of these coloured squares the player wins a prize. Otherwise the player loses. The table below shows the probabilities of the coin landing entirely within each coloured square.

Colour	Red	Blue	Green
Probability	0.13	0.14	0.04

(a) What is the probability that a player wins a prize? [2]

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(b) One day 200 people play this game. How many people would you expect to win a prize? [2]

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c) It costs 70p to play the game once. The prize for winning is £1.50. If the 200 people play the game once, how much profit do you expect the game to make? [2]

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Assessment for Learning



Starter.

1. Four teams, City, Rovers, Town and United play competition to win a cup. Only one team can win.

City	Rovers	Town	United
0.38	0.27	0.15	x

$x = \dots 0.2$

2. The probability that a biased dice will land on a four is $\frac{1}{5}$. Pam is going to roll the dice 200 times. Work out an estimate for the number of times the dice will land on a four.

$\frac{1}{5} \times 200 = 400$

Top Tips!

Probability Always out of 1 , 100%

Expected Probability = Probability x Frequency

Probability game problems

1. Find the number of winners (*expected probability*)
2. Find the Income
3. Find the outgoings (Pay-out)
4. Find the profit

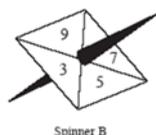
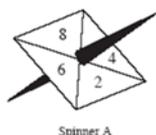
Skills:

1. Sanej throws two fair dice. He scores a double one. Calculate the probability of **not** scoring a double one when two fair dice are thrown. [2]

$P(1) = (\frac{1}{6})$ $P(\text{not } 1) = (\frac{5}{6})$

$P(\text{Not } 1 \text{ and Not } 1) = (\frac{5}{6}) \times (\frac{5}{6}) = (\frac{25}{36})$

2. Spinner A has four equal sections numbered 2, 4, 6 and 8. Spinner B has four equal sections numbered 3, 5, 7 and 9. In a game both spinners are spun and the two numbers obtained are multiplied together to give the score.



Complete the following table to show **all** the possible scores.

Spinner B	9	18	36	54	72
	7	14	28	42	56
	5	10	20	30	40
	3	6	12	18	24
		2	4	6	8
		Spinner A			

b) Find the probability that the score is less than 20.

$P(\text{Less than } 20) = \frac{6}{16}$

Examination Question:

FT – Nov 14 P1 Q11

In a game, a player rolls a coin onto a board marked out in squares. The squares on the board are coloured red, blue or green. If the coin lands entirely within one of these coloured squares the player wins a prize. Otherwise the player loses. The table below shows the probabilities of the coin landing entirely within each coloured square.

Colour	Red	Blue	Green
Probability	0.13	0.14	0.04

(a) What is the probability that a player wins a prize? [2]

$\dots\dots\dots P(\text{win}) = 0.31$

(b) One day 200 people play this game. How many people would you expect to win a prize? [2]

$\dots \text{Expected} = 0.31 \times 200 = 62$

c) It costs 70p to play the game once. The prize for winning is £1.50. If the 200 people play the game once, how much profit do you expect the game to make? [2]

$\dots \text{Income} = 70\text{p} \times 200 = \text{£}140$

$\dots \text{Pay-out} = \text{£}1.50 \times 62 = \text{£}91$

$\dots \text{Profit} = \text{£}140 - \text{£}91 = \text{£}49$

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Assessment for Learning

