



THIRD SPACE
LEARNING

GCSE Exam Questions

Ratio to Fraction | Ratio &
Proportion

GCSE Exam Questions: Ratio to Fraction

- 1) (a) 8 cards are taken from a pack of cards. Write the ratio of chosen cards that have a value of less than 6 to the total number of cards chosen.

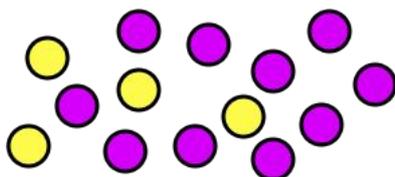


(1)

- (b) The ratio of picture cards to non-picture cards in a full deck of cards is 3:10.
What fraction of the deck are not picture cards?

(2)
(3 marks)

- 2) (a) Below is a diagram showing purple and yellow counters.



Harry says “the ratio of purple counters to the total number of counters is 5:2”.
Why must Harry be wrong?

(1)

- (b) Write 3 correct ratios using the diagram in part a).

(3)
(4 marks)

GCSE Exam Questions: Ratio to Fraction

- 3) (a) Half of the fish in a tank are rainbow fish.
20% are gouramis and the rest are corydoras.

Write the ratio of rainbow fish to gouramis to corydoras in the simplest form.

(4)

- (b) Originally there were 20 fish. Three more rainbow fish are added.
What fraction of the fish in the tank are now rainbow fish?

(2)
(6 marks)

- 4) (a) A bag contains red, blue and yellow counters. There are 26 counters.
11 of the counters are red. The ratio of blue to yellow counters is 3:2.

What fraction of the counters are yellow?

Give your answer in its simplest terms.

(5)

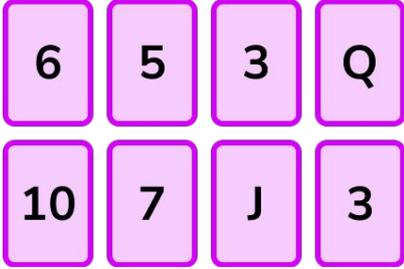
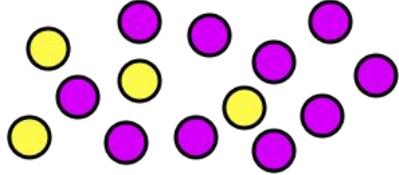
- (b) 2 more counters are added.

The new ratio of counters is 6:5:3.

What colour(s) are the two new counters?

(3)
(8 marks)

GCSE Exam Questions: Ratio to Fraction Answers

	Question	Answer	Marks
1) (a)	<p>8 cards are taken from a pack of cards. Write the ratio of chosen cards that have a value of less than 6 to the total number of cards chosen.</p> 	(a) 3:8	(1)
(b)	The ratio of picture cards to non-picture cards in a full deck of cards is 3:10. What fraction of the deck are not picture cards?	(b) $\frac{10}{10 + 3}$ $\frac{10}{13}$	(1) (1)
2) (a)	<p>Below is a diagram showing purple and yellow counters.</p>  <p>Harry says “the ratio of purple counters to the total number of counters is 5:2”. Why must Harry be wrong?</p>	(a) The total number of counters must be greater than or equal to the number of purple counters so the ratio is not correct.	(1)
(b)	Write 3 correct ratios using the diagram in part a).	(b) $Y:P = 4:10$ or $2:5$ $P:Total = 10:14$ or $5:7$ $Y:Total = 4:14$ or $2:7$	(1) (1) (1)
3) (a)	<p>Half of the fish in a tank are rainbow fish. 20% are gouramis and the rest are corydoras.</p> <p>Write the ratio of rainbow fish to gouramis to corydoras in the simplest form.</p>	(a) $\frac{1}{2} = 50\%$ $50\% + 20\% = 70\%$ $100\% - 70\% = 30\%$ 5:2:3	(1) (1) (1) (1)
(b)	Originally there were 20 fish. Three more rainbow fish are added. What fraction of the fish in the tank are now rainbow fish?	(b) $20 \div 2 + 3 = 13$ $\frac{13}{23}$	(1) (1)

GCSE Exam Questions: Ratio to Fraction Answers

	Question	Answer	Marks
4) (a)	A bag contains red, blue and yellow counters. There are 26 counters. 11 of the counters are red. The ratio of blue to yellow counters is 3:2. What fraction of the counters are yellow? Give your answer in its simplest terms.	(a) $26 - 11 = 15$	(1)
		$15 \div (3 + 2) = 3$	(1)
		$2 \times 3 = 6$	(1)
		$\frac{6}{26}$	(1)
		$\frac{3}{13}$	(1)
(b)	2 more counters are added. The new ratio of counters in 6:5:2. What colour(s) are the two new counters?	(b) $28 \div (6 + 5 + 3) = 2$ $6:5:3 = 12:10:6$ Original 11:9:6 1 red, 1 blue	(1) (1) (1)

Where to go next?

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