Name:

Exam Style Questions

Fraction of an amount

Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this topic

www.corbettmaths.com/contents

Video 137

1. Calculate

$\frac{3}{4}$ of 36

$36 \div 4 = 9$
$9 \times 3 = 27$

27

(2)

2. Work out

$\frac{1}{3}$ of 24

$24 \div 3 = 8$

8

(1)

3. Work out

$\frac{2}{5}$ of 35 days

$35 \div 5 = 7$
$7 \times 2 = 14$

14 days

(2)

4. Calculate

$\frac{4}{9}$ of 72kg

$72 \div 9 = 8$
$8 \times 4 = 32$

32kg

(2)

5. Work out

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

14 days

Give your answer in days.

$14 \div 7 = 2$

$2 \times 4 = 8$

8 days

(2)

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6. Calculate

$\frac{5}{8}$ of 14kg

$14 \div 8 = 1.75$

$1.75 \times 5 = 8.75$

8.75 kg

(2)

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7. James earns £800 a month.

He spends ¼ on rent and ⅖ on food and bills.

How much money has he left?

$800 \div 4 = 200$ rent

$800 \div 5 = 160$

$160 \times 2 = 320$ food & bills

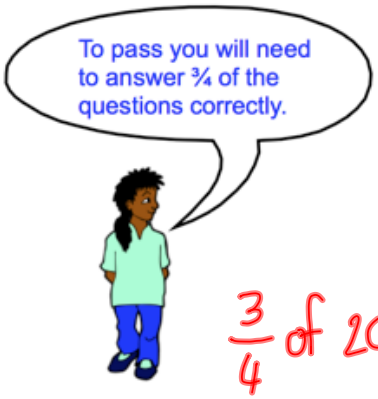
$320 + 200 = 520$ total spending

$800 - 520 = 280$

£ 280

(4)

8. Mrs Johnson set 6 students a test.
The test has 20 questions.



$\frac{3}{4}$ of 20 = 15

The results were:

Alan	14
Barry	16 ✓
Carl	13
Donna	19 ✓
Emma	20 ✓
Fiona	10

Work out which students passed the test.

Barry, Donna e Emma

.....

(3)

9. Which is larger?

½ of 280 or ⅜ of 400

Show your working.

$\frac{1}{2}$ of 280 = 140

$\frac{3}{8}$ of 400 = 150 $400 \div 8 = 50$ $50 \times 3 = 150$

$\frac{3}{8}$ of 400

(3)

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10. Joanne has 300 sweets.
She gives ½ of the sweets to Erin. 150

Joanne then gives ⅓ of the remaining sweets to William.

How many sweets does Joanne have left?

$300 - 150 = 150$

$150 \div 3 = 50$

$150 - 50 = 100$

100

(2)

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11. Hannah has $900.

She spends ⅓ on books and ⅖ on presents.

What fraction of the $900 has she left?

$900 \div 3 = 300$ books.

$900 \div 5 = 180$

$180 \times 2 = 360$ presents.

$300 + 360 = 660$

$900 - 660 = 240$

$\frac{240}{900}$

$\frac{24}{90} = \frac{8}{30} = \frac{4}{15}$

$\frac{4}{15}$

(4)

12. A pair of jeans normally costs £40.
In the sales there is ¼ off.

Work out how much the jeans are in the sales.

40 ÷ 4 = 10

40 − 10 = 30

£ 30

(2)

13. Work out

$\frac{5}{7}$ of 168

$7\overline{)168}$ = 24

168 ÷ 7 = 24

24 × 5 = 120

24 × 5 = 120

120

(2)

14. In January a baby elephant weighs 180kg.

By March the weight of the baby elephant had increased by ⅜.

Work out the weight of the baby elephant in March.

180 ÷ 8 = 22.5

22.5 × 3 = 67.5

180 + 67.5

247.5 kg

(3)

15. Bill is 80 years old.

His son Max is ⅝ of his age. 50

His granddaughter Jayne is ⅕ of his age. 16

How many years older than Jayne is Max?

80 ÷ 8 = 10

10 × 5 = 50

80 ÷ 5 = 16

4 1
5 0
− 1 6
3 4

34 yrs

(4)

16. Georgie works 15 hours each week.
She earns £5 per hour.

Georgie saves ⅓ of her earnings each week.

How many weeks does it take Georgie to save £200?

15 × 5 = 75

75 ÷ 3 = 25 savings each week

200 ÷ 25 = 8

8 weeks

(4)

17. Gregory received £2400. He gave ⅓ of it to his favourite charity and spent ⅕ of it on a new violin. What fraction of his money is left?

2400 ÷ 3 = £800 charity

2400 ÷ 5 = £480 violin

800 + 480 = 1280

2400 − 1280 = 1120

1120 / 2400

112/240 = 56/120 = 28/60

= 14/30 = 7/15

7/15

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(4)

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18. The attendance at Frome United versus Trowbridge Rovers was 8,701.

Of this crowd, five-sevenths were male.
Calculate how many people were female. → 2/7

8701 ÷ 7 = 1243

1243 × 2 = 2486

2486

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(3)

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19. A jar of coffee used to contain 520g.

New packets contain one-fifth less.
Work out how much the new packet contains.

520 ÷ 5 = 104

520 − 104 = 416

416

.....g

(3)

20. The size of a packet of pasta is increased by one-quarter.
The new size is later reduced by one-quarter.

Is the new packet smaller, the same size or larger than the original?

Explain how you worked out your answer.

Method 1: Let the packet contain a certain amount, e.g. 100g
Increase by $\frac{1}{4}$: 100 ÷ 4 = 25 100 + 25 = 125g
Decrease by $\frac{1}{4}$: 125g ÷ 4 = 31.25g 125 - 31.25g = 93.75g

Overall it is smaller than the original. This is because when the new size is reduced by $\frac{1}{4}$, since it is a larger quantity, the decrease will be larger than the increase.

Method 2 (multipliers):

Increase by $\frac{1}{4}$: y x 1.25 = 1.25y
Decrease by $\frac{1}{4}$: 1.25y x 0.75 = 0.9375y

Therefore an increase of $\frac{1}{4}$ then followed by a decrease of a $\frac{1}{4}$ will result in a 6.25% decrease

(3)

21. When a bouncy ball is dropped it will rise to ⅘ of the height it dropped from.

A ball is dropped from a height of 5 metres and is allowed to bounce repeatedly.

Which is the least number of bounces until its rebound height is less than 2 metres?

Show your working.

$\frac{4}{5}$ of 5 = 4 m 1st rebound height

$\frac{4}{5}$ of 4 = 3.2 m 2nd rebound height

$\frac{4}{5}$ of 3.2 = 2.56 m 3rd

$\frac{4}{5}$ of 2.56 = 2.048 m 4th

$\frac{4}{5}$ of 2.048 = 1.6384 5th

5 .....bounces

(3)