

Name: \_\_\_\_\_

## Exam Style Questions

### Fractions: Increasing or decreasing



Corbettmαths

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

You may use tracing paper if needed

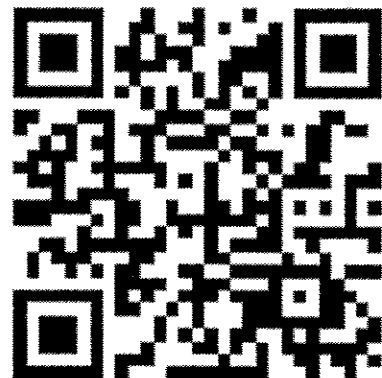
### Guidance

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](http://www.corbettmaths.com/contents)

# Video 141



1.

**SALE**  
 **$\frac{1}{3}$  OFF ALL ITEMS**

The original price of a football is £12.  
What is the sale price of the football?

$$\frac{1}{3} \text{ of } 12 = 4$$

$$12 - 4 = 8$$

£.....8.....  
(2)

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2. Increase £800 by  $\frac{1}{4}$

$$\frac{1}{4} \text{ of } 800 = 200$$

$$800 + 200 = 1000$$

£.....1000.....  
(2)

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3. Decrease 150kg by  $\frac{1}{5}$

$$150 \div 5 = 30$$

$$150 - 30$$

.....120.....kg  
(2)

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4. Decrease 21 by  $\frac{1}{7}$

$$21 \div 7 = 3$$

$$21 - 3 = 18$$

.....18.....  
(2)

5. Sarah normally earns £600 each month.  
In December she is given a bonus of  $\frac{1}{5}$  of her normal pay.

(a) Work out  $\frac{1}{5}$  of 600.

$$600 \div 5 = 120$$

$$\begin{array}{r} \pounds \dots 120 \dots \\ (1) \end{array}$$

(b) Work out her total pay for December.

$$600 + 120$$

$$\begin{array}{r} \pounds \dots 720 \dots \\ (1) \end{array}$$

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6. The value of a house increased by  $\frac{1}{10}$  over five years.

In 2010 the value of the house was £140,000.  
Work out the value of the house in 2015.

$$140\,000 \div 10 = 14\,000$$

$$\begin{array}{r} \pounds \dots 154\,000 \dots \\ (2) \end{array}$$

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7. Matthew weighed 81kg before training for a marathon

His weight decreased by a  $\frac{1}{9}$ .

Work out his weight after the marathon.

$$81 \div 9 = 9$$

$$\begin{array}{r} \dots 72 \dots \text{kg} \\ (2) \end{array}$$

8. In 2014, Bristol United's average attendance was 2000  
The following season, the average attendance increased by  $\frac{2}{5}$ .

Work out the average attendance in 2015.

$$2000 \div 5 = 400$$
$$400 \times 2 = 800$$

$$\begin{array}{r} 2800 \\ \hline \end{array} \quad (2)$$

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9. Increase 24 by  $\frac{2}{3}$

$$\frac{2}{3} \text{ of } 24 = 16$$

$$24 + 16$$

$$\begin{array}{r} 40 \\ \hline \end{array} \quad (2)$$

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10. Decrease 36 by  $\frac{3}{4}$

$$\frac{3}{4} \text{ of } 36 = 27$$

$$36 - 27$$

$$\begin{array}{r} 9 \\ \hline \end{array} \quad (2)$$

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11. Increase 64 by  $\frac{3}{8}$

$$\frac{3}{8} \text{ of } 64 = 24$$

$$64 + 24 = 88$$

$$\begin{array}{r} 88 \\ \hline \end{array} \quad (2)$$

12. Benjamin is starting a new training program. Each month he increases the distance he runs by  $\frac{3}{10}$

In month 1 he ran 20 miles.

- (a) How far does Benjamin run in month 2?

$$\frac{3}{10} \text{ of } 20 = 6$$

.....26.....miles  
(2)

- (b) How far does Benjamin run in month 3?

$$\frac{3}{10} \text{ of } 26 = 7.8$$

.....33.8.....miles  
(2)

- (c) How far does Benjamin run in total over the first three months?

$$\begin{array}{r} 20 \\ + 26 \\ + 33.8 \\ \hline \end{array}$$

.....79.8.....miles  
(1)

13. Last year Melissa was paid £2200 per month.  
Last year Natalie was paid £3200 per month.

Melissa's salary is increased by  $\frac{3}{5}$ .  
Natalie's salary is increased by  $\frac{1}{8}$ .

Who is paid more each month this year?  
You must show your workings.

$$\begin{aligned} &\underline{\text{Melissa}} \\ &2200 \div 5 = 440 \\ &440 \times 3 = 1320 \\ &2200 + 1320 = \underline{3520} \end{aligned}$$

$$\begin{aligned} &\underline{\text{Natalie}} \\ &3200 \div 8 = 400 \\ &3200 + 400 = 3600 \end{aligned}$$

Natalie

(4)

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14. The population of an island in 2000 was 2385  
By 2015 the population has decreased by  $\frac{2}{5}$

What was the population of the island in 2015?

$$\begin{aligned} &2385 \div 5 = 477 \\ &477 \times 2 = 954 \\ &2385 - 954 = \end{aligned}$$

1431

(3)

15. The price of a new car is £18000  
In a sale, the price is reduced by  $\frac{2}{9}$

David buys the car in the sale.

He pays a £2000 deposit and pays the rest over 20 monthly payments.

Find the cost of each monthly payment.

$$18000 \div 9 = 2000$$

$$2000 \times 2 = 4000$$

$$18000 - 4000 = 14000$$

$$14000 - 2000 = 12000$$

$$\begin{array}{r} 00600 \\ 20 \overline{) 12000} \end{array}$$

.....  
£600

(5)

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