EDUCATION & TRAINING FOUNDATION

Functional Skills – Changing the Paradigm

Number Workbook

DATE: OCTOBER 2024

Introduction

This pack contains support materials for dealing with numerical problems you may encounter in everyday life and/or in the workplace. The content can be utilised in a number of ways to support both learners and delivery staff. Suggested uses include:

1. To be issued to learners for them to work through prior to undertaking the Skills Scan so that they are not doing the Skills Scan 'cold'.
2. To be issued to learners once they have completed the Skills Scan to enable them to build their knowledge and confidence ahead of attendance at Functional Skills classes.
3. To be issued to learners who don't require Functional Skills as a means of refreshing their knowledge and applying their mathematical skills.
4. For delivery staff to refresh their mathematical skills and knowledge prior to supporting learners with the Skills Scan

Number Work

Money

Fractions, Decimals & Percentages

Ratio

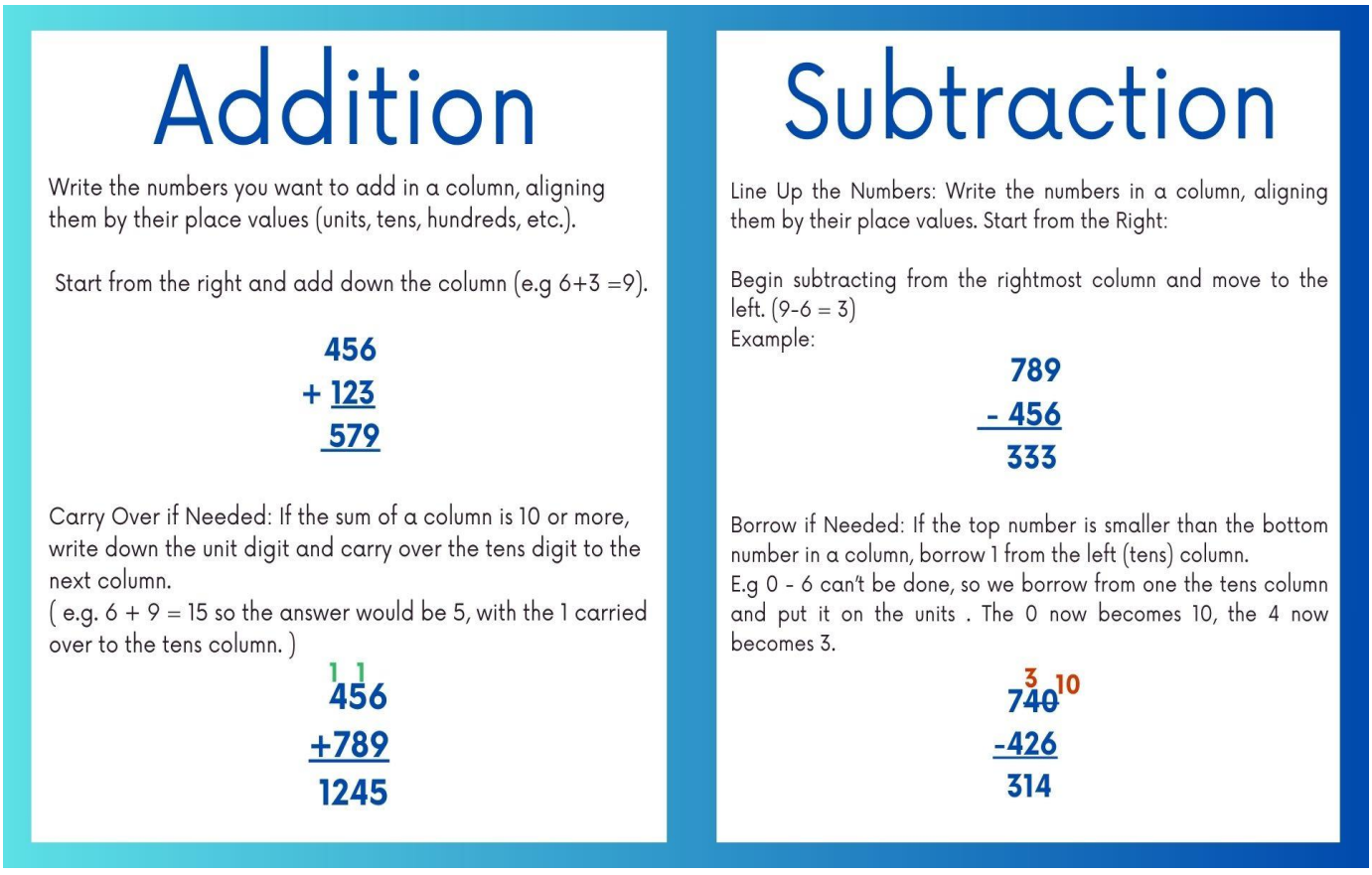
Addition & Subtraction

What Do You Know?

Answer the questions below to see what you already know.

Q1: Emma earns £2,450 in a month. She spends £1,325 on rent and £845 on bills. How much money does she have left?
Q2: A shopkeeper had 1,200 apples. He sold 675 apples and bought 250 more. How many apples does he have now?
Q3: A car travels 125.5 miles on Monday and 98.7 miles on Tuesday. How many miles did it travel in total?

How To…



Let's Practice!

Here are some more questions to practice this skill.

1. Calculate the sum of 254 and 487.
2. Subtract 312 from 670.
3. A store sells 126 apples on Monday and 234 apples on Tuesday. How many apples were sold in total?
4. A farmer had 1,225 chickens. He sold 348 chickens. How many chickens does he have left?
5. A school library has 3,586 books. After a donation, it received 1,487 more books. Later, 649 books were borrowed. How many books are left in the library?
6. A company had 9,503 units of a product in stock. They sold 1,267 units on Monday, 2,139 units on Tuesday, and 1,489 units on Wednesday. How many units are left in stock?

Exam preparation

Try the exam style questions below **WITHOUT A CALCULATOR**

Q1 A charity event raised £2,345 on the first day, £1,789 on the second day, and £2,456 on the third day. How much money was raised in total over the three days?

Q2. A shopkeeper buys 150 items at £12 each and sells 120 of them at £15 each. How much profit does the shopkeeper make after accounting for the cost of the items?

Question based on NCFE Functional skills Level 2

Answers

What do you know?

Q1: £2,450 - £1,325 - £845 = Emma has £280 left.

Q2: 1,200 - 675 + 250 = shopkeeper now has 775 apples.

Q3: 125.5 + 98.7 = The car travelled 224.2 miles in total

Let's Practice

1. 254+487= 741
2. 670−312=358
3. 126+234=360 apples
4. 1,225−348=877 chickens
5. Total books after donation: 3,586+1,487=5,073 books
   Books left after borrowing: 4,424 books
6. Total units sold:1,267+2,139+1,489= 4,895 units
   Units left in stock:9,503−4,895 = 4,608 units

Exam Preparation

Q1: (2,345 + 1,789 + 2,456 = 6,590) pounds raised.

Q2: Cost of items: (150 x 12 = 1,800) pounds.
Revenue from sales: (120 x 15 = 1,800) pounds.
Profit: (1,800 - 1,800 = 0) pounds (no profit made).

Multiply & Divide

What Do You Know?

Answer the questions below to see what you already know.
Q1: A family spends £180 on groceries in 4 weeks. What is their average weekly spend?
Q2: A box contains 144 chocolates. If they are packed into bags of 12, how many bags can be made?
Q3: A train ticket costs £22.50. How much will it cost for 9 people to travel?

How to…

Multiply

STEP 1 : Break the numbers into place values (HTU).
For example, 23 = 20 and 3.

STEP 2: Add one set of numbers to the top of the grid and the other set to the side (as shown below).

STEP 3: Multiply across the grid.
TIP: To multiply units 10, multiply the numbers then add the 0's at the end. For example, 20 x 40 has 2 0's, so if we remove them it will be 2 x 4 = 8. Then just put the 0's back on so the answer is 800.

STEP 4 : Add the results: 800+120+100+15 =1035

x	20	3
40	800	120
5	100	15

Divide

STEP 1 : The first number goes inside, and the second number goes on the outside.

$$16 \overline{)\,384}$$

STEP 2 : How many times does 16 go into 3? It can't as 3 is lower, so we put a 0 above the 3.

$$\begin{array}{r} 0 \\ 16 \overline{)\,384} \end{array}$$

STEP 3 : We now see how many times 16 goes into 38. 16 + 16 = 32 . 16 fits into 38 2 times with 6 remainder.
The 2 goes above the 8, while the remainder will go in front of the next number – in this case 4. This now makes it 64.

$$\begin{array}{r} 02 \\ 16 \overline{)\,38^{6}4} \end{array}$$

STEP 4: We now see how many times 16 fits inside 64. 64 ÷16 = 4. Put this on the top above the 64.

$$\begin{array}{r} 024 \\ 16 \overline{)\,38^{6}4} \end{array}$$

Let's Practice!

Here are some more questions to practice this skill.

1. Multiply:8×6
2. Divide: 54÷9
3. If one pencil costs £1.75, how much would 8 pencils cost?
4. A packet of biscuits costs £2.40. If there are 4 packets, how much do they cost in total?
5. A factory produces 240 toys per day. How many toys will the factory produce in 18 days?
6. You have £42. You want to divide it equally among 6 friends. How much will each friend receive?

Exam preparation

Try the exam style questions below **WITHOUT A CALCULATOR**

A factory produces widgets. Each box contains 15 widgets. The factory has received an order for 225 widgets.

1. **How many boxes of widgets does the factory need to fulfill**

Using styles

Always use the styles in the style guide menu above to ensure the document is

Answers

What do you know?
Q1: £180 ÷ 4 = The family spends £45 weekly.

Q2: 144 ÷ 12 = The box makes 12 bags.

Q3: £22.50 × 9 = Total cost is £202.50.

Let's Practice

1. 8 × 6 = 48
2. 54 ÷ 9 = 6
3. £1.75 × 8 = £14.00
4. £2.40 × 4 = £9.60
5. 240 × 18 = 4320
6. £42 ÷ 6 = £7.00

Exam Preparation

1. 225 ÷ 15 = 15 boxes
2. 2.25 x 225 = £618.75.

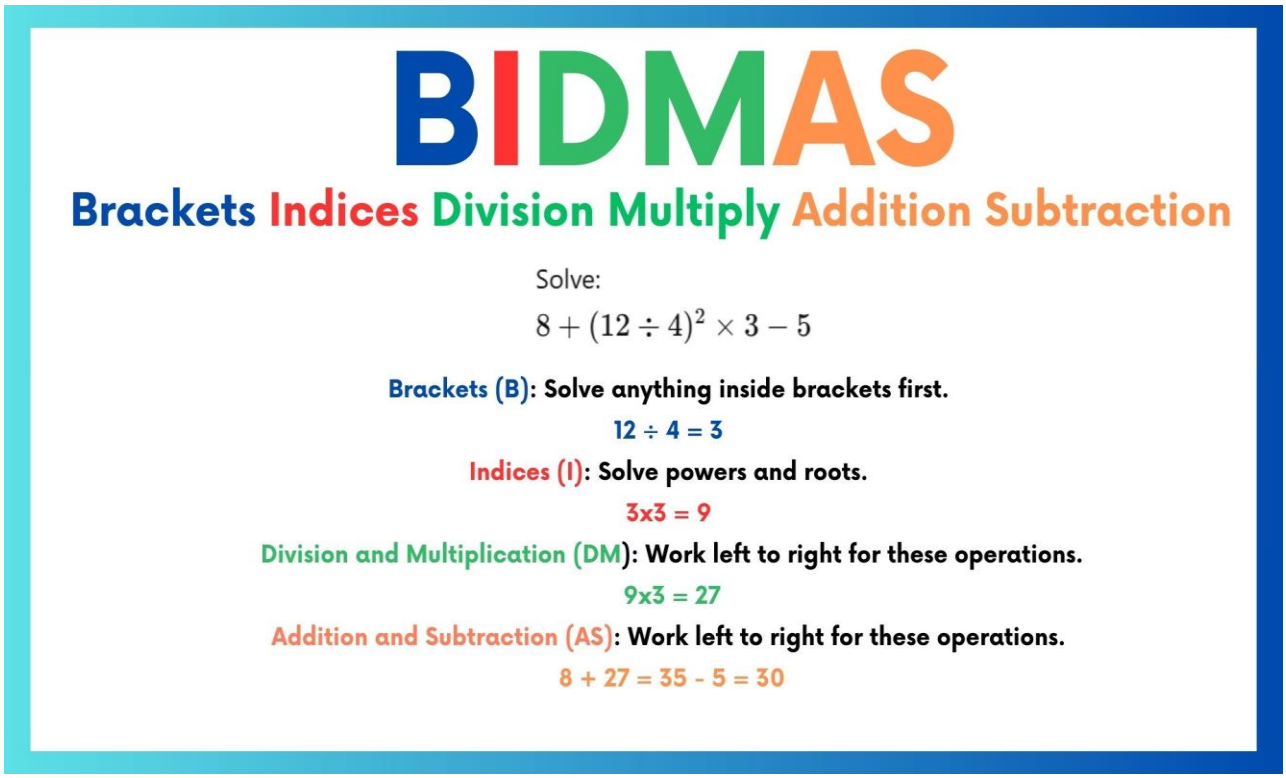
Order of operations

What Do You Know?

Answer the questions below to see what you already know.

Q1: Calculate: $15+6\times4-3\div3$
Q2: Work out: $8^2-(7+5)\div2$.

How to…



Let's Practice!

Here are some more questions to practice this skill.

1. Calculate: 5+3×2
2. Calculate:7× (4+2)
3. Simplify:12−4×3+2
4. Calculate:6+(3+5)×2
5. Calculate:10+8÷ (4+2)
6. Solve:(5+3)×2−4

Exam preparation.

Try the exam style questions below **WITHOUT A CALCULATOR**

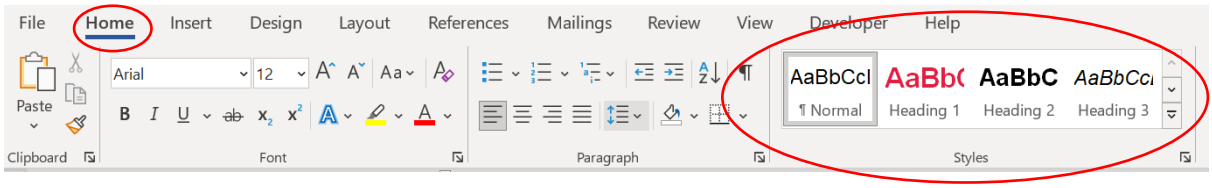
1) Calculate : 15+(8×2)−9÷3

[2 Marks]

2) A shopkeeper calculates the total cost of items in the

properly formatted.

You will find the styles in the ‘home’ tab – see image below to help locate ‘home’ and the styles.



A style will apply to a whole paragraph – to use the style, click in the line you wish to format, and then click the name of the style you wish to use, for example ‘Heading 1’.

Answers

What do you know?

Q1:
Step 1: 6×4=24
Step 2: 3÷3=1
Step 3: 15+24−1=**38**

Q2:
Step 1: 8 x 8 =64
Step 2: 7+5=12
Step 3: 12÷2=6
Step 4: 64−6=**58**

Let’s Practice

1. 5 + (3 × 2) = **11**
2. 7 × (4 + 2) = **42**
3. 12 - (4 × 3) + 2 = **2**
4. 6 + ((3 + 5) × 2) = **18**
5. 10 + (8 ÷ (4 + 2)) = **11.33**
6. ((5 + 3) × 2) - 4 = **12**

Exam Preparation

Q1:

1. Brackets: 8×2=16
2. Division: 9÷3=3
3. Add and subtract: 15+16−3=31−3=28

Q2:

1. Brackets: 6×3=18
2. Division: 8÷4=2
3. Add and subtract: 50−18+2=32+2=34

Working with money: Negative numbers

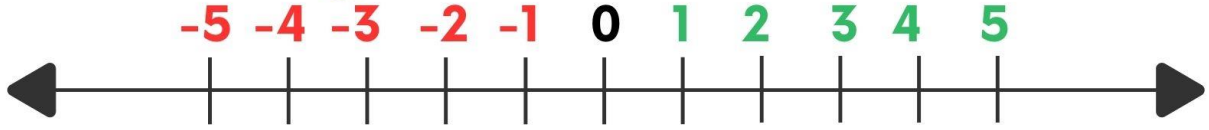
What Do You Know?

Answer the questions below to see what you already know.

Q1: A bank account is overdrawn by £45.10. After a £70 deposit, what is the new balance?
Q2: A customer owes £150 on a credit card. They pay off £80. What is the remaining debt?
Q3: A loan account starts at -£300. A payment of £150 is made, and another £50 is withdrawn. What is the final balance?

How to…

Negative Numbers



Negative numbers are numbers that are lower than 0 on a numberline. They are often used to show temperature (when its colder than freezing) or debt (if you are in negative balance, it means you owe money)

Adding a Negative Amount:
Adding a negative is the same as subtracting.
Example: If your balance is £50 and you add a debt of £20, your new balance is:
$50+(-20)=50-20=£30$

Subtracting a Negative Amount:
Subtracting a negative is the same as adding.
Example: If your balance is £-40 (overdrawn by £40) and you subtract a debt of £30, your new balance is:
$-40-(-30)=-40+30=£-10$

TIP : If you are unsure, use a numberline to have an idea of where it is. On a calculator, make sure you use brackets to show the negative number otherwise you may not get a correct answer.

Let's Practice!

Here are some more questions to practice this skill.

1. You have £20. You spend £25. How much money do you owe?
2. A bank account has a balance of £50. You withdraw £80. What is your new balance?
3. Sarah has £35 in her bank account. She withdraws £50. What is her balance now?
4. Your account balance is £100. You spend £120. What is your account balance now?
5. You have £70 in your account. You pay a bill of £90. How much do you owe the bank?
6. You have £150. After withdrawing £230, how much more money do you need to cover the difference?

Exam preparation

Try the exam style questions below **WITHOUT A CALCULATOR**

Sarah has a bank account balance of £159. She makes the following transactions:

1. **Withdraws £200 for a new phone.**

Answers

What do you know?

Q1: -£45.10 + £70 = **£24.90.**
Q2: -£150 + £80 = **-£70.**
Q3: -£300 + £150 - £50 = **-£200.**

Let's Practice

1. £20 - £25 = **-£5**
2. £50 - £80 = **-£30**
3. £35 - £50 = **-£15**
4. £100 - £120 = **-£20**
5. £70 - £90 = **-£20**
6. £150 - £230 = **-£80**

Exam Preparation

1. £159 – 200 = -59

2. -£59 + 50 = -£9 -£30 = -£39. £39 overdrawn.

Working with Money: Rounding and Estimation

What Do You Know?

Answer the questions below to see what you already know.

Q1: A car costs £19,876. Estimate its cost to the nearest £1,000.
Q2: A hotel charges £134.75 per night. Estimate the cost for a 4-night stay by rounding to the nearest £10.
Q3: Estimate the total of £45.99, £78.49, and £22.19 by rounding each value to the nearest £10.

How to…

Rounding

Adjusting a number to a simpler value, often to the nearest 10, 100, decimal place, etc.

Estimation

An "Educated guess"

Round each number in the problem to a convenient level (e.g., nearest 10, 100, or decimal place).

Let's Practice!

Here are some more questions to practice this skill.

1. Round £45.67 to the nearest pound.
2. Round £13.49 to the nearest 10p.
3. Estimate the total cost of 3 items priced at £8.79, £6.50, and £3.99 by rounding to the nearest pound.
4. You are budgeting for groceries and want to estimate the cost of three items costing £2.49, £4.35, and £7.89. Round each to the nearest 50p and estimate the total cost.
5. Round £8.75 to the nearest 10p. Then, subtract £3.50. What is the result?
6. You want to estimate the cost of a meal at a restaurant. The menu shows the prices of meals are £11.25, £9.99, and £5.50. Round each price to the nearest £1 and estimate the total.

Exam preparation.

Try the exam style questions below **WITHOUT A CALCULATOR**

Tom has been charged the following for his gas heating for the month of December.

Cost per unit of gas (kWh)	3.56p
Standing charge per day	43.6p

Tom uses 2023 kwh of gas.
Use approximations to estimate Tom's gas payment (in pounds).

[5 Marks]

Question based on Edexcel Functional skills Level 2

Answers

What do you know?

Q1: £19,876 rounded to the nearest £1,000 = **£20,000.**

Q2: £134.75 rounded to the nearest £10 = £130.
Estimated cost: £130×4=**£520**

Q3: £45.99 ≈ **£50**, £78.49 ≈ **£80**, £22.19 ≈ **£20.**
Estimated total: £50+£80+£20=£150

Let's Practice

1. Round £45.67 to the nearest pound = **£46**
2. Round £13.49 to the nearest 10p = **£13.50**
3. Estimate the total cost of 3 items priced at £8.79, £6.50, and £3.99 by rounding to the nearest pound = **£20**
4. You are budgeting for groceries and want to estimate the cost of three items costing £2.49, £4.35, and £7.89. Round each to the nearest 50p and estimate the total cost = **£15**
5. Round £8.75 to the nearest 10p. Then, subtract £3.50 = **£5.30**

6. You want to estimate the cost of a meal at a restaurant. The menu shows the prices of meals are £11.25, £9.99, and £5.50. Round each price to the nearest £1 and estimate the total = **£27**

Exam Preparation

Step 1: 3.56 = 3.50 2023 = 2000
Step 2 :3.50p x 2000 = 7000
Step 3: 40p x 31 (days in December) = 1240
Step 4: 7000 + 1240 = 8240
Step 5: 8240 ÷ 100 (100p = £1) = £82.40 estimate

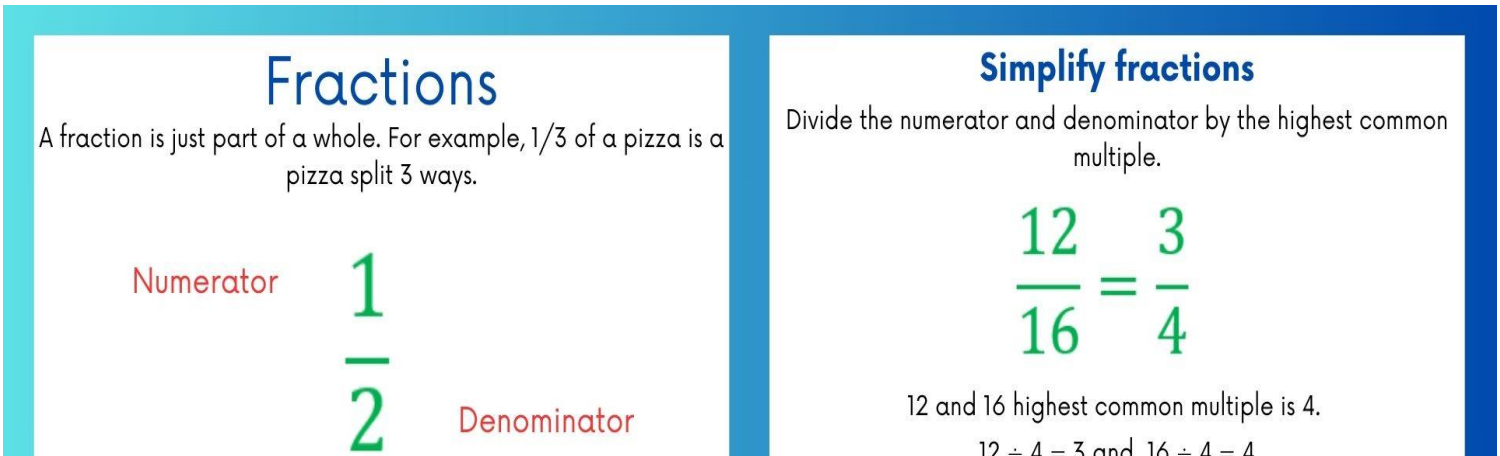
Fractions

What Do You Know?

Answer the questions below to see what you already know.

Q1: A class of 30 students has 12 boys and 18 girls. What fraction of the class are boys?
Q2: A pizza is cut into 8 slices. If 3 slices are eaten, what fraction of the pizza is left?
Q3: A car tank holds $\frac{3}{4}$ of its capacity. If the total capacity is 60 litres, how many litres are in the tank?

How to…



Let's Practice!

Here are some more questions to practice this skill.

1. What is $\frac{1}{2}$ of £16?
2. Simplify the fraction: $\frac{12}{16}$
3. Add the fractions: $\frac{3}{8} + \frac{1}{4}$
4. A cake recipe calls for $\frac{2}{3}$ of a cup of sugar. How much sugar would you need if you are making 3 times the recipe?
5. Franck is hosting 2 events. Event 1 had $\frac{1}{4}$ of 900 people attend, event 2 had $\frac{2}{5}$ of 600 people attend. How many people attended the events in total?
6. John drinks $\frac{3}{5}$ of a bottle of juice. If the bottle holds 500ml, how much juice has he drunk?

Exam preparation

Try the exam style questions below **Calculator allowed**

A baker uses the following amounts of flour for a recipe:

$\frac{2}{3}$ of a bag of flour for bread

Answers

What do you know?

Q1: $\frac{12}{30} = \frac{2}{5}$

Q2: $\frac{5}{8}$

Q3: 60 ÷4 = 15. 15 x 3 = 45 Litres

Let's Practice

1. 1/2 of £16 = £8
2. Simplify the fraction: 12/16= 3/4
3. Add the fractions: 3/8 + ¼ = 3/8 + 2/8 = 5/8
4. A cake recipe calls for 2/3 of a cup of sugar. How much sugar would you need if you are making 3 times the recipe?
   2/3 × 3 = 2 cups of sugar

5. 900 ÷4 = 225. 600 ÷5 = 120x2 = 240. 225 + 240 = 465 people attended.
6. John drinks 3/5 of a bottle of juice. If the bottle holds 500ml, how much juice has he drunk?
   3/5 of 500ml = 300ml

Exam Preparation

A) $\frac{2}{3} + \frac{1}{4} =$: $\frac{8}{12} + \frac{3}{12} = \frac{11}{12}$

B) 30 ÷ 12 = 2.5 x 11= 27.5
30 – 27.5 = 2.5kg

Decimals

What Do You Know?

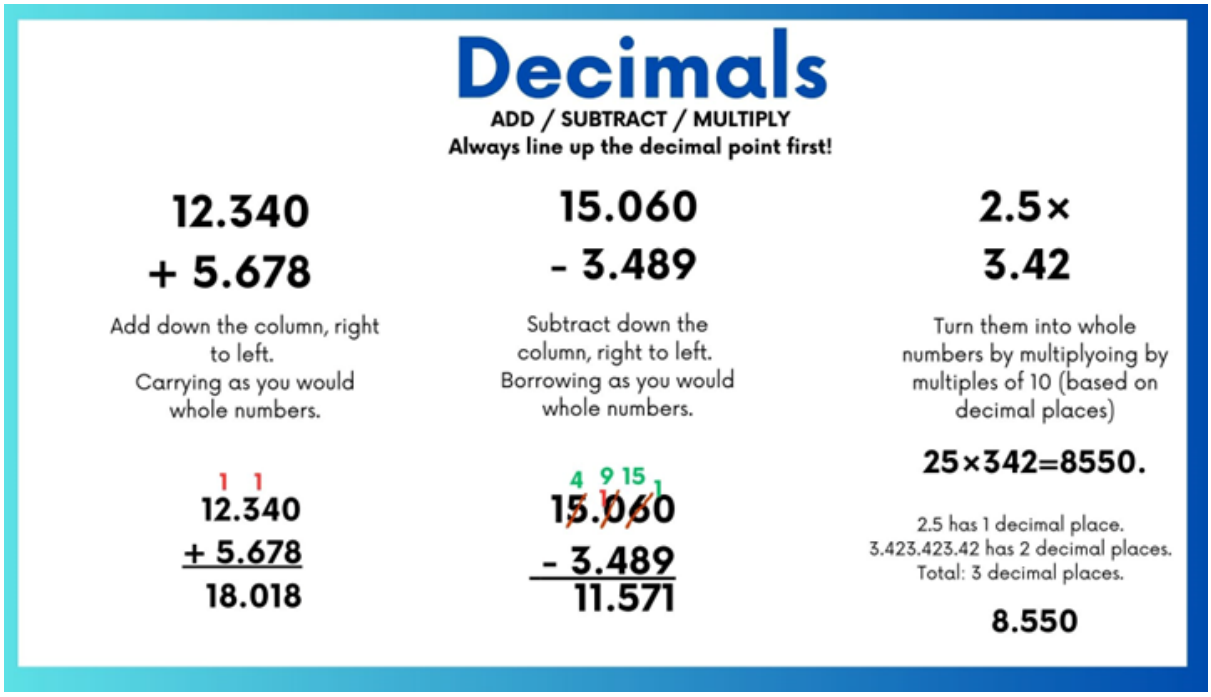
Answer the questions below to see what you already know.

Q1: Add 3.45 and 2.89.

Q2: A fabric roll is 12.5 metres long. If 3 pieces of 2.8 metres are cut from it, how much fabric remains?

Q3: Multiply 4.3 by 2.7.

How to…



Let's Practice!

Here are some more questions to practice this skill.

1. Add: 4.75+3.50
2. Subtract: 7.85−2.60
3. Multiply: 2.5×3.62
4. If a car travels 5.75 miles per hour, how far will it travel in 8 hours?
5. Three friends share the cost of a meal equally. The total bill comes to £48.75. How much does each friend pay?
6. A painter charges £15.50 per hour for labour. He works for 5.5 hours on a job. He also spends £47.25 on paint and supplies. What is the total cost for the job?

Exam preparation.

Try the exam style questions below **WITHOUT A CALCULATOR**

Penny buys lunch on her way to work.
She sees this meal deal.

Penny chooses these items.

Chicken wrap £2.90
Protein bar 99p
Coffee £1.59

Work out how much money Penny will save using the meal deal. You MUST show your working,

[3 Marks]

Question based on Edexcel Functional skills Level 2

Answers

What do you know?

Q1: 3.45+2.89=6.34
Q2: 12.5−2.8−2.8−2.8= 4.1 metres
Q3: 4.3×2.7=11.61

Let's Practice

1. Add: 4.75 + 3.50 = 8.25
2. Subtract: 7.85 - 2.60 = 5.25
3. Multiply: 2.5 × 3.6 = 9.0
4. If a car travels 5.75 miles per hour, how far will it travel in 8 hours?
   5.75 × 8 = 46 miles
5. 48.75÷3=£16.25
6. Calculate labour cost:15.50×5.5=85. Add paint costs to labour cost:85.25+47.25=£132.50

Exam Preparation

2.9 + 0.99 + 1.59 = £4.48
£4.48 - £3.50 = £0.98
(1 mark awarded for showing working!)

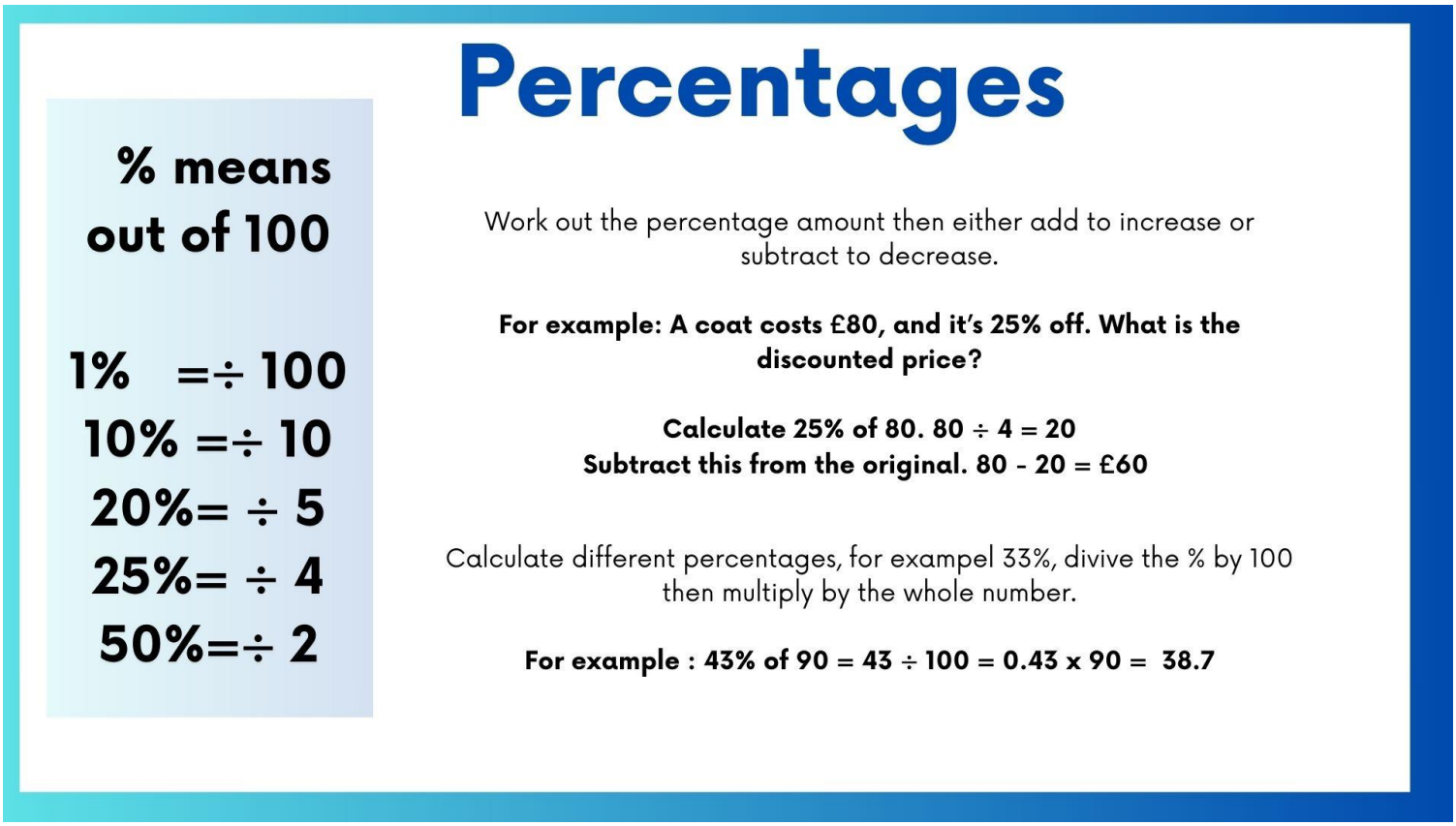
Percentages

What Do You Know?

Answer the questions below to see what you already know.

Q1: Find 25% of £360.
Q2: A computer originally costs £800 but is on sale at 20% off. What is the sale price?
Q3: A store increases its prices by 15%. If a chair originally cost £120, what is the new price?

How to…



Let's Practice!

1. What is 20% of £50?
2. A shirt costs £25. If it is on sale for 30% off, how much is the discount?
3. A customer buys an item for £120, which is reduced by 15%. How much did the customer save?
4. A store sells a TV for £500. It is on sale for 40% off. What is the sale price?
5. A £500 phone depreciates in value by 20%. What is the new worth of the phone?
6. A shop increases the price of a product by 25%. If the original price was £80, what is the new price?

Exam preparation.

Try the exam style questions below **WITHOUT A CALCULATOR**

Alfie wants to buy a new oven.

He will use one of these shops

Shop A	Shop B
24 monthly payments of £35	Normal price £940 Now 22% off

Alfie wants to spend the least amount of money.

Which offer should Alfie use. Show why you think this.

[4 Marks]

Question based on Edexcel Functional skills Level 2

Answers

What do you know?

Q1: 25%×360= 25 ÷100×360= £90 OR 360 ÷ 4 = £90 [360x0.25]

Q2: £800 ÷ 10 = £80 x 2 (OR 20%×800) = £160. £800 - £160 = £640 [800 x 0.8]

Q3: Increase = 15%×120=18 . £120+£18= £138 [120 x 1.15]

Let's Practice

1. 20% of £50 = £50 × 0.20 = £10
2. 30% of £25 = £25 × 0.30 = £7.50
3. 15% of £120 = £120 × 0.15 = £18
4. 10% of 500 = £50 x 2 = £100. £500 - £100 = £400
5. £500 × 0.40 = £200
   £500 - £200 = £300
6. 25% of £80 = £80 × 0.25 = £20
   £80 + £20 = £100

Exam Preparation

SHOP A

24 x 35 = 840

SHOP B

Method 1) 1 – 0.22 = 0.78. 940 x 0.78 = £733.20

Method 2) 940 ÷ 100 = 9.4 x 22 = £206.80. £940 - £206.80 = £733.20

Answer: Shop B is the cheapest option

Fractions, Decimals and Percentages

What Do You Know?

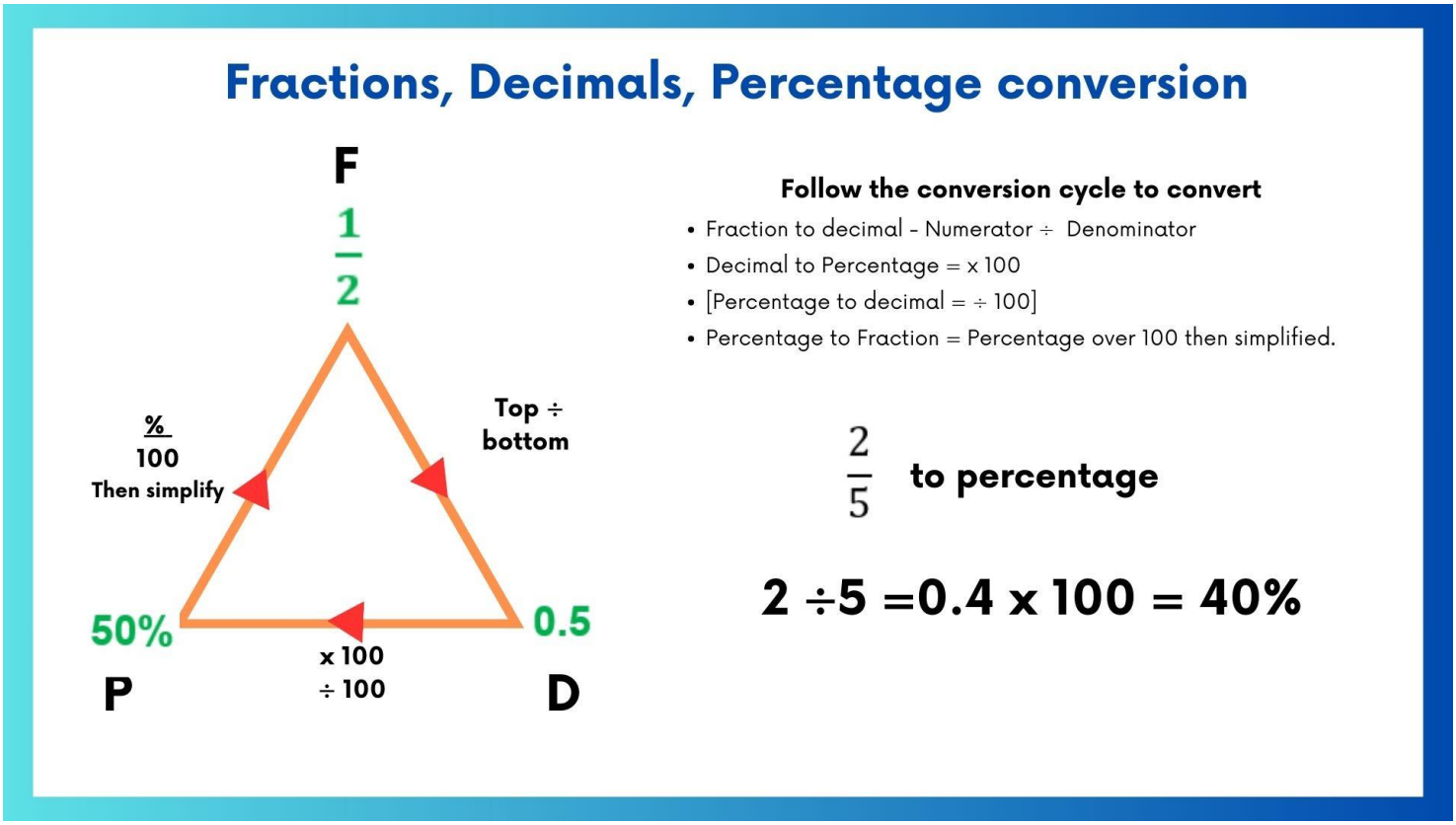
Answer the questions below to see what you already know.

Q1: Convert $\frac{7}{10}$ into a decimal and percentage.

Q2: Write 0.65 as a fraction in its simplest form.

Q3: A student scores $\frac{18}{20}$ in a test. Express the score as a percentage.

How to…



Let's Practice!

Here are some more questions to practice this skill.

1. Convert $\frac{3}{4}$ into a decimal.
2. Convert 0.6 into a fraction in its simplest form.
3. Convert 25% into a fraction and a decimal.
4. Convert $\frac{5}{8}$ into a percentage.
5. Convert 3/5 into a decimal and a percentage.
6. A student scores 72 out of 90 on a test. What percentage did the student score?

Exam preparation

Try the exam style questions below **WITHOUT A CALCULATOR**

A survey was conducted to find customer preferences for three products:

$\frac{3}{8}$ of customers prefer **Product A**.

0.35 of customers prefer **Product B**.

12% of customers prefer **Product C**.

a)Convert product B and C into Fractions in their simplest forms.
b)Convert Product A and B into Percentages
c)What product was more popular?

[4 Marks]

Question based on NCFEFunctional skills Level 2

Answers

What do you know?

Q1: 0.7, 70%

Q2: $\frac{65}{100} = \frac{13}{20}$

Q3: 18 ÷20=0.9 x 100 = 90%

Let's Practice

1. 0.75
2. 3/5
3. 1/4 = 0.25
4. 5 ÷ 8 = 0.625 × 100 = 62.5%
5. 3 ÷ 5 = 0.6 = 60%
6. (72 ÷ 90) × 100 = 80%

Exam Preparation

a) 0.35 = $\frac{35}{100} = \frac{7}{20}$
12% = $\frac{12}{100} = \frac{6}{50} = \frac{3}{25}$

b) $\frac{3}{8}$ = 3 ÷8 = 0.375 x 100 = 37.5%
0.35 x 100 = 35%

c) A = 37.5% B= 35% C = 12%. Product A is the most popular.

Ratio & Proportion: Solving into a given ratio

What Do You Know?

Answer the questions below to see what you already know.

Q1: £300 is shared between Amy, Ben, and Chloe in the ratio 2:3:5. How much does each person receive?

Q2: 120 sweets are shared between two children in the ratio 7:5. How many sweets does each child get?

Q3: A bag of 90 apples is divided into three groups in the ratio 4:3:2. How many apples are in each group?

How to…

Ratio : Dividing into parts

STEP 1: Add the parts of the ratio together: This gives the total number of parts.

STEP 2: Divide the total amount by the total parts: **This gives the value of one part.**

STEP 3 : Multiply the value of one part by each number in the ratio:

Three friends share £180 in the ratio 2:3:1 How much does each friend get?

STEP 1 : ADD	**2+3+1=6 parts**
STEP 2 : ONE PART	Total amount÷Total parts=180÷6=3**0** **One part is worth £30.**
STEP 3 : EACH SHARE	First friend (2 parts): 2×30=60 Second friend (3 parts): 3×30=90 Third friend (1 part): 1×30=30 **Answer: The shares are £60, £90, and £30.**

Let's Practice!

Here are some more questions to practice this skill.

1. Share £36 in the ratio of 3:2 between two people.
2. Share £48 in the ratio of 4:5.

3. A class of 30 students is divided into two groups in the ratio 3:2. How many students are in each group?

4. You have £72 and need to divide it in the ratio 7:5. How much will each person receive?

5. Divide 60 apples between 3 people in the ratio 4:5:6.

6. Mr Dante's class has a boy to girl ratio of 3:5. Mrs Ambers' class has a boy to girl ratio of 2:8. Both classes have 40 students. How many boys in total between the two classes?

Exam preparation

Try the exam style questions below **Calculator allowed.**

Arthur , Mali and Bob are moving into a 3 bedroom flat.
Arthur will have the bigger bedroom.

The total monthly rent for the flat is £720.
They will split the cost of the rent into the ratio 7:5:4

Arthur thinks he will pay less than £400 a month in rent.
Is Arthur Correct? Show why you think this.

[3 Marks]

Question based on Edexcel Functional skills Level 2

Answers

What do you know?

Q1: 2+3+5 = 10. 300 ÷10 = 30. 30 x 2:3:5 = **£90, £60, £150**

Q2: 7+5 = 12. 120 ÷12 = 10. 10 x 7: 5 = **£70: 50**

Q3: 4+3+2 = 9. 90 ÷9 = 10. 10 x 4:3:2 = **£40: 30: 20**

Let's Practice

1. £21.60 and £14.40
2. £21.33 and £26.67
3. 18 students and 12 students
4. £42 and £30
5. 16 apples, 20 apples, and 24 apples
6. 40÷8 =5
   5 x 3 = 15.
   40 ÷10 = 4
   4 x 2 = 8
   8 + 15 = 23

Exam Preparation

7 + 5 + 4 = 16
720 ÷ 16 = 45
45 x 7 = £315.
Arthur will pay £315 which is less than £400.

Ratio & Proportion: Proportion & Inverse Proportion

What Do You Know?

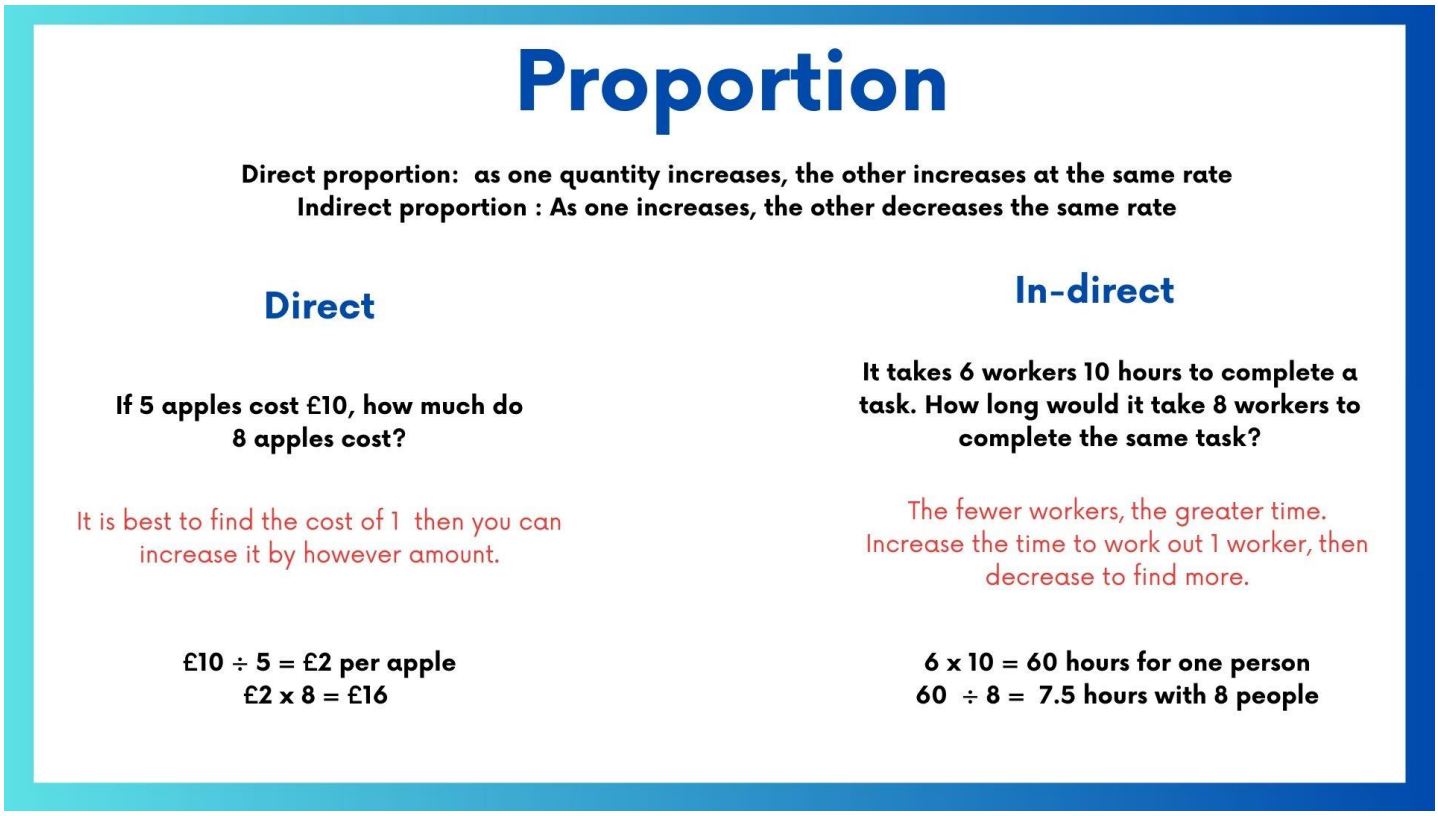
Answer the questions below to see what you already know.

Q1: A recipe uses 200g of sugar for 8 servings. How much sugar is needed for 20 servings?

Q2: A car travels 40 miles using 8 litres of fuel. How many litres are needed to travel 100 miles?

Q3: A painter uses 6 litres of paint to cover 15 square metres. How much paint is needed to cover 50 square metres?

How to…



Let's Practice!

Here are some more questions to practice this skill.

1. If 5 apples cost £2.50, how much will 20 apples cost?
2. A recipe calls for 150g of sugar to make 10 biscuits. How much sugar is needed to make 50 biscuits?

3. If 4 workers can complete a job in 6 days, how long will it take 8 workers to complete the same job?

4. A car travels 120 miles in 3 hours. How far will it travel in 7 hours at the same speed?

5. A factory makes 200 units per day. How many units will the factory make in 25 days?

6. If 12 litres of paint cover 72 square metres, how many litres will be needed to cover 120 square metres?

Exam preparation

Try the exam style questions below **Calculator Allowed**

Greg works in construction.

He knows it takes 3 bricklayers 5 hours to lay a total of 600 bricks.

Next week Greg will have 5 bricklayers on the site.

All the bricklayers work at the same rate.

How much time would it take 5 bricklayers to lay 600 bricks.

[3 Marks]

Question based on Edexcel Functional skills Level 2

Answers

What do you know?

Q1: 200 : 8 = 100 : 4 = 100 x 5 : 4 x 5 [4x5 = 20 servings] = 500:20 = 500g

Q2: 40 : 8 = 20 : 4 = 20 x 5 : 4 x 5 [20 x 5 = 100 miles] = 100 : 20 = 20 Litres

Q3: 6: 15 = 2:5 = 2 x 10 : 5 x 10 [5 x 10 = 50 Sq. Metres] = 20 : 50 = 20 Litres

Let's Practice

1. Cost per apple: £2.50 ÷ 5 = £0.50 Cost for 20 apples: 20 × £0.50 = **£10.00**
2. Sugar per biscuit: 150g ÷ 10 = 15g Sugar for 50 biscuits: 50 × 15g = **750g**
3. Total work: 4 × 6 = 24 worker-days' Time for 8 workers: 24 ÷ 8 = **3 days**
4. Speed: 120 ÷ 3 = 40 mph Distance in 7 hours: 7 × 40 = **280 miles**
5. Total units: 200 × 25 = **5,000 units**
6. Paint per square metre: 12 ÷ 72 = 0.1667 litres Paint for 120 square metres: 120 × 0.1667 = **20 litres**

Exam Preparation

3 bricklayers = 5 hours
1 bricklayer = 5 x 3 = 15 hours
5 bricklayers = 15 hours ÷ 5 = 3 hours.
5 bricklayers will take 3 hours.

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