

Year 6 Maths Mastery

Express Missing Number Problems
Algebraically



Emergency Plumber

1) An emergency plumber charges £15 for a call out and £8 per hour for any work. Which formula below can be used to calculate how much the plumber charges?



$$15h + 8$$

$$8h - 15$$

$$8h + 15$$

$$15h - 8$$

(h is the number of hours the plumber works)



p and q

2a) Write two algebraic expressions to show the relationship between p and q if p is 4 more than q .

2b) Write two algebraic expressions to show the relationship between p and q if p is 12 less than q .

2c) Write two algebraic expressions to show the relationship between p and q if p is 12 less than q .



a and b

3a) Which expressions are a simplification of: $a + a + a + b + b$?

$$3a + 2b$$

$$2a + 3b$$

$$2b + 3a$$

$$2b - 3a$$

3b) Which expressions are a simplification of: $a + a + a + a - b$?

$$4a + b$$

$$b + 4a$$

$$4a - b$$

$$b - 4a$$

3c) Write an expression which simplifies: $a - b + a - b - b$.



Discount

4) A farmer sells barrels of milk for £14. A discount of £6 on any order is given for paying in advance. Write the formula that could be used to calculate the cost of any number of barrels (b) of milk paid for in advance.



Further maths challenge

a).

A ruler costs k pence.

A pen costs m pence.

Match each statement with the correct expression for the amount in pence.

The first one is done for you.

b).

When $x = 8$, what is the value of $3x - x$?

Tick (✓) the correct box below.

 0 3 16 30 None of these

Statement	Expression
	<input type="checkbox"/> $5k$
<input type="checkbox"/> The total cost of 5 rulers	<input type="checkbox"/> $5m$
	<input type="checkbox"/> $5 - 5m$
<input type="checkbox"/> The total cost of 5 rulers and 5 pens	<input type="checkbox"/> $500 - 5m$
	<input type="checkbox"/> $5k + m$
<input type="checkbox"/> How much more 5 pens cost than 5 rulers	<input type="checkbox"/> $5(k + m)$
	<input type="checkbox"/> $5m - 5k$
<input type="checkbox"/> The change from £5, in pence, when you buy 5 pens	<input type="checkbox"/> $5k - 5m$

The answers for this slide are on the main powerpoint

