



1) What is the value of n in the following equations:

a) $n + 6 + 8 = 24$

$n = 10$

b) $3n = 45$

$n = 15$

c) $2n - 4 = 14$

$n = 9$

2) Workout the value of a

$$a^3 = b^2$$

$a = 4$

The children should demonstrate understanding that the value of a cubed should be the same as the value of b squared. Children may demonstrate strategies such as recording cubed and squared numbers systematically.

Review where the errors may be:

- Understanding of the use of a and b .
- Understanding of the squared and cubed signs.
- Understanding of writing the value of A as 4 and not 64.

3) Write the formula to find the area of a rectangle and give an example of how it is used:

length \times width

Children may demonstrate with an image of a rectangle with measurements and an example of the calculation they have used to work out the area. Or may write an explanation, giving example measurements for a rectangle and the calculation they perform to work out the area.

4) A group of friends go Raspberry picking. This sign is displayed when they arrive at the till to help people work out how much the raspberries cost:

£1.20 per 100g + 25p for the box

a) Tasha picks 425grams of raspberries. How much will it cost her?

Children to demonstrate understanding by performing calculations similar to:

$$1.20 \times 4 = 4.80$$

$$+ 1.20 \div 4 = 30\text{p or } 0.30 \text{ (this will find the price of 25g)}$$

$$+ 25\text{p or } 0.25 \text{ (for the bag)}$$

£5.35

b) Tom spends £3.25. How many grams of raspberries did he buy?

Children to demonstrate understanding by performing calculations similar to:

$$£3.25 - 25\text{p} = £3.00 \text{ (take away the bag)}$$

$$2 \times £1.20 = 2.40 \text{ (200grams worth)}$$

$$3.00 - 2.40 = 60\text{p}$$

$$60\text{p is half of } £1.20 \text{ so } 60\text{p} = 50\text{grams}$$

250g

c) Saifal buys 300g of raspberries. He said I can write this down like this :

$$£1.20 \times 3r + 25\text{p}$$

Explain the formula Saifal has used

Children should be able to explain that the $3r$ is used to how many lots of 100gs of raspberries there are. The £1.20 is always the same and this formula could be used for any amounts of 100gs such as if he were to buy 700 grams the formula would be $£1.20 \times 7r + 25\text{p}$.

5) Continue number sequence and describe the pattern:

120, 60, 30, 15, 7.5, 3.75

The children should demonstrate understanding that each number is halved every time in the sequence. Some children may write this algebraically such as: $n \div 2$

6) Natalia uses this formula to write a sequence of numbers. She starts with the number 2.

$$n \times 2 + 1$$

For example: $2 \times 2 + 1 = 5$

Work out what the 5th number in the sequence is?

Children should demonstrate understanding of how to use a formula to create a sequence of numbers. The children have been told that they are to start on 2, this being the first number and then been given the next number 5. The children are then to work out the next 3 numbers to find the answer.

2

$$2 \times 2 + 1 = 5$$

$$5 \times 2 + 1 = 11$$

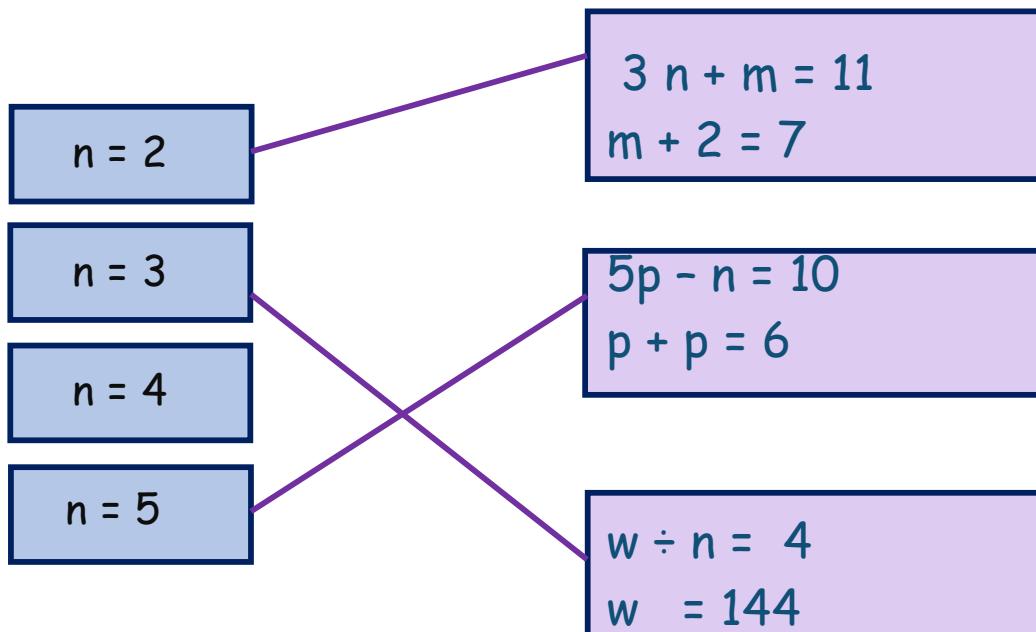
$$11 \times 2 + 1 = 23$$

$$23 \times 2 + 1 = 47$$

2, 5, 11, 23,

47

7) Match the equations to the correct value of n.



8) Zain visits the sweet shop. He has 24p to spend. Here are the prices of different sweets.



Red lace 5p

L



toffee 8p

T



chocolate stick 10p

S



chocolate coin 7p

C

Suggest a combination of sweets Zain could buy to use the whole 24pence. Write this as an algebraic equation using the symbols suggested.

Accept any of the following:

$$2L + 2c = 24$$

$$s + 2c = 24$$

$$3t = 24$$

Some children may do:

$$2 \times l + 2 \times c = 24$$

$$s + c + c = 24$$

award a mark but ensure that children have the opportunity to record algebraic equations in different ways and simple forms.

9) Use any 2 digits between 3 and 9 to make this number sentence correct:

$$21 + \square = 30 - \square$$

any of the following:

3 and 6

4 and 5

5 and 4

6 and 3

10) Below is a product pyramid. Find the missing numbers

Assess the children's understanding of the word product and their understanding of finding the 3 possible amounts using the information that they have.

