

Determine the value of  $a$ ,  $b$  and  $c$ .

1  $5a + 9 = 34$                        $a =$  \_\_\_\_\_

2  $26 - 4b = 17$                        $b =$  \_\_\_\_\_

3  $3 + 6c = 33 - 4c$                    $c =$  \_\_\_\_\_

Use the values you have found for  $a$ ,  $b$  and  $c$  above, to calculate this expression.

4  $2a^2 - 7c + 8b =$  \_\_\_\_\_

Calculate these.

5  $8^2 - 2^3 =$  \_\_\_\_\_

6  $4^3 + 2^4 =$  \_\_\_\_\_

7  $9^2 - 7^2 =$  \_\_\_\_\_

8  $5^3 - 3^4 =$  \_\_\_\_\_

9–13 Write these in order from largest to smallest.

55%     $\frac{9}{16}$     0.48     $\frac{4}{7}$     50%

\_\_\_\_\_

A pond has 27 birds on it: 7 are moorhens, 9 are mallards, 6 are teal, 5 are coots.  
Write answers to these questions as fractions in the lowest terms.

14 What are the chances of any one bird being a teal? \_\_\_\_\_

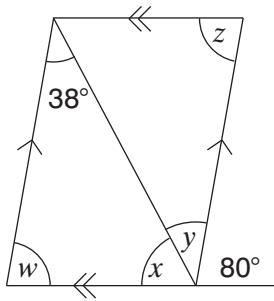
15 What are the chances of any one bird being a coot? \_\_\_\_\_

16 What are the chances of any one bird being a moorhen? \_\_\_\_\_

17 What are the chances of any one bird being a mallard? \_\_\_\_\_



ABCD is a parallelogram. Calculate the angles marked  $w$ ,  $x$ ,  $y$  and  $z$ .



18 Angle  $w$  = \_\_\_\_\_°

19 Angle  $x$  = \_\_\_\_\_°

20 Angle  $y$  = \_\_\_\_\_°

21 Angle  $z$  = \_\_\_\_\_°

22 Calculate the mean of this set of numbers.

9 15 11 16 8 4 3 10 5 \_\_\_\_\_

23 150 jellybeans can be bought for 99p. How much would 250 cost?

\_\_\_\_\_

24 What is 3 weeks, 3 days and 4 hours in minutes?

\_\_\_\_\_ minutes

25 The price of petrol was 98p per litre. It went up by 15%.

What is the new price?

\_\_\_\_\_ p

44 125 77 108 102 79 121 87

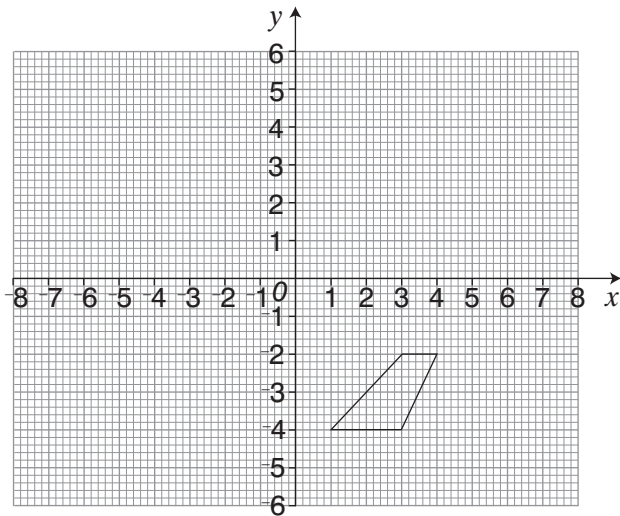
From the group of numbers shown above, choose an example of:

26 A square number \_\_\_\_\_

27 A multiple of 9 \_\_\_\_\_

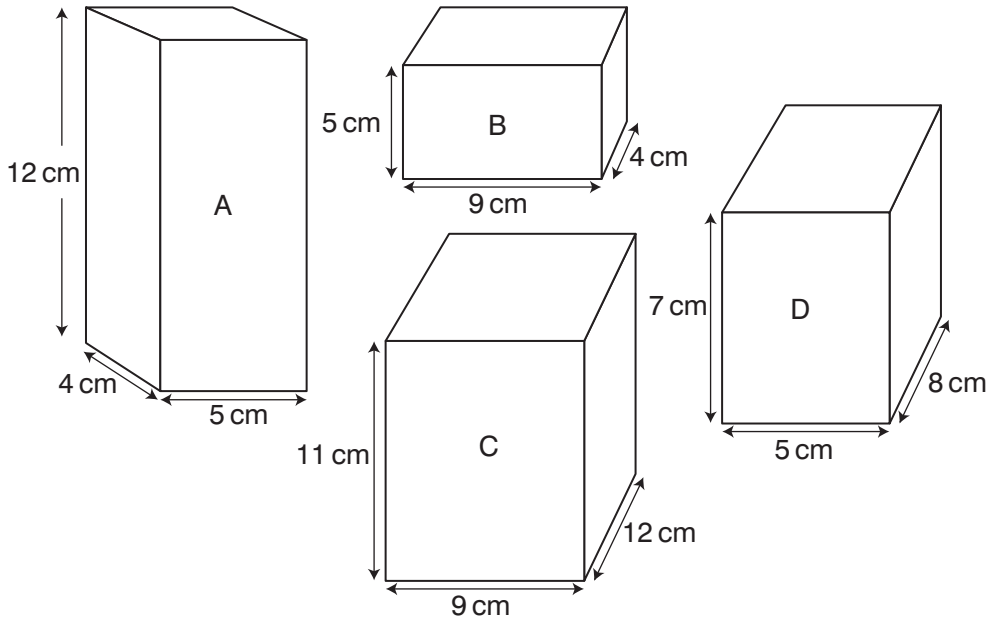
28 A prime number \_\_\_\_\_

29 A cube number \_\_\_\_\_



- 30 Reflect the shape in the vertical axis.
- 31 Translate the reflected shape 6 units up and 1 unit left.
- 32 Translate the translated shape 7 units right and 2 units up.

Calculate the volume and surface area of each of these cuboids.



- 33–34 The volume of A is \_\_\_\_\_  $\text{cm}^3$  and its surface area is \_\_\_\_\_  $\text{cm}^2$ .
- 35–36 The volume of B is \_\_\_\_\_  $\text{cm}^3$  and its surface area is \_\_\_\_\_  $\text{cm}^2$ .
- 37–38 The volume of C is \_\_\_\_\_  $\text{cm}^3$  and its surface area is \_\_\_\_\_  $\text{cm}^2$ .
- 39–40 The volume of D is \_\_\_\_\_  $\text{cm}^3$  and its surface area is \_\_\_\_\_  $\text{cm}^2$ .

Calculate the answers to these problems.

41  $16.25 \times 4 =$  \_\_\_\_\_

42  $163.1 \div 7 =$  \_\_\_\_\_

43  $131.3 \times 5 =$  \_\_\_\_\_

44  $78.96 \div 4.7 =$  \_\_\_\_\_

45  $663 \times 31 =$  \_\_\_\_\_

46  $72.9 \div 9 =$  \_\_\_\_\_

47 If a dog eats £33 worth of food in 11 days, how much will it cost to feed it for 9 days?

£ \_\_\_\_\_

48 I think of a number, double it and add 8. The answer is three times my original number. What is the number I first thought of?

\_\_\_\_\_

49–50 Using all the digits 5, 2, 4, 9, 7 and 1 make:

The smallest possible number

\_\_\_\_\_

The largest possible number

\_\_\_\_\_



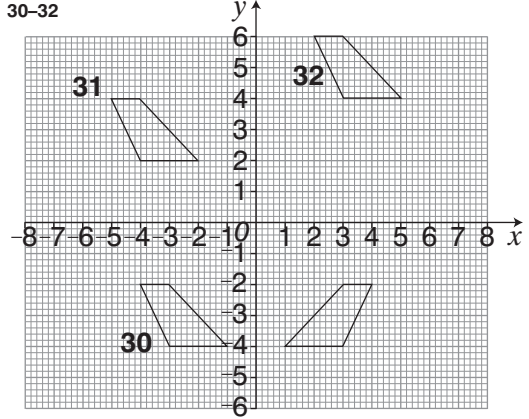
*Now go to the Progress Chart to record your score!*

Total



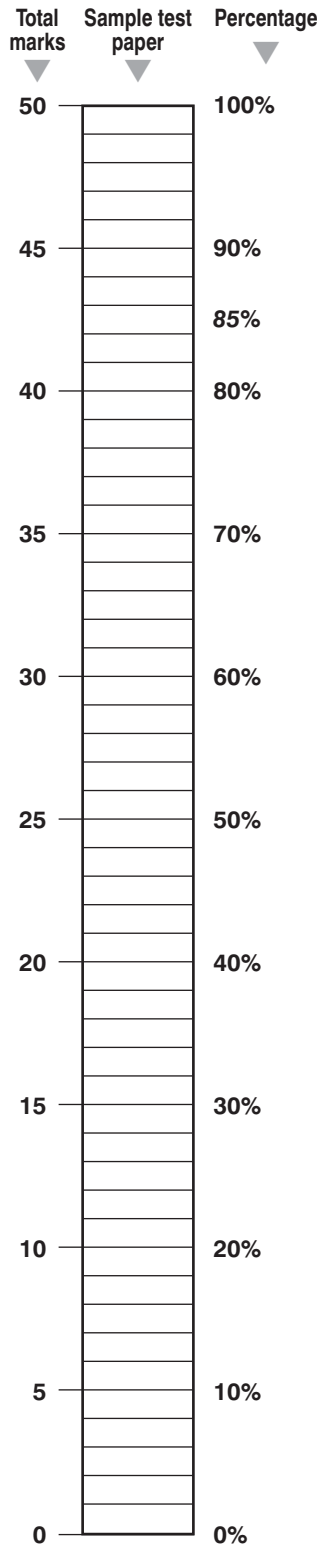
- 1 5
- 2 2.25 or  $2\frac{1}{4}$
- 3 3
- 4 47
- 5 56
- 6 80
- 7 32
- 8 44
- 9-13  $\frac{4}{7}$   $\frac{9}{16}$  55% 50% 0.48
- 14  $\frac{2}{9}$
- 15  $\frac{5}{27}$
- 16  $\frac{7}{27}$
- 17  $\frac{1}{3}$
- 18  $80^\circ$
- 19  $62^\circ$
- 20  $38^\circ$
- 21  $80^\circ$
- 22 9
- 23 £1.65
- 24 34800
- 25 112.7
- 26 144
- 27 108
- 28 79
- 29 125

30-32



- 33 240
- 34 256
- 35 180
- 36 202
- 37 1188
- 38 678
- 39 280
- 40 262
- 41 65
- 42 23.3
- 43 656.5
- 44 16.8
- 45 20553
- 46 8.1
- 47 27
- 48 8
- 49 124579
- 50 975421

# Progress Chart Sixth papers in Maths



When you've filled in the progress chart read the Next Steps

## Next Steps Planner ...

### Step 1 Go over your mistakes.

- Go over any wrong answers and try the questions again.
- Use *How to do ... 11+ Maths* to help with any question types you find difficult.

### Step 2 Do more practice.

#### **If you got more than 85% ...**

**Either:**

Use *Bond Assessment Papers: Sixth papers in Maths* to reinforce and expand your maths skills at this level.

**Or:**

Try some mock test papers for realistic exam practice. The 11+ test papers can be used to help refresh your exam skills.

#### **If you got 50-85% ...**

We suggest that you do lots more practice at this level to help improve your scores. *Bond Assessment Papers: Sixth papers in Maths* includes a wider variety of questions than are included in the sample paper and will help to strengthen your maths skills.

Make sure you keep going back over any wrong answers and use *How to do ... 11+ Maths* to help with any question types you find difficult.

#### **If you got less than 50% ...**

We suggest that you try some fifth level books to build up your maths skills; *Bond Assessment Papers: Fifth papers in Maths* and *Bond Assessment Papers: More fifth papers in Maths*. Keep going back over questions that puzzle you, using the strategies in *How to do ... 11+ Maths* to help you, then come back to the sixth level book.