



Bishop Challoner School

Mathematics

Sample Questions for Year 7 (11+)

(Current Year 6)

Information:

- The questions are meant to give a taster of the types of questions you will have to answer in the entrance examination.
- Please note that this is not meant to be comprehensive regarding the topics that could appear on the entrance paper, rather this is meant to provide a guide.
- Marks for each question are shown in brackets after the question.
- Calculators are NOT allowed

Advice:

- Read each question carefully before you start to answer it.
- Make sure you show all stages of your working out.
- For some questions, you will find it useful to use short phrases to help ensure your working out and methods used clear.
- Do not use a calculator when doing these questions.
- If appropriate, make sure you include your units.

1. Calculate the answers to the following:

(a) $157 + 781$ (2)

(b) $455 - 123$ (3)

(c) $56 + 52 - 12$ (3)

(d) 53×24 (3)

(e) $782 \div 17$ (3)

(f) 127×354 (3)

2. Calculate the answers to the following:

(a) -7×-2 (1)

(b) 8×-9 (1)

(c) $-9 + (-3)$ (1)

(d) $9 - (-3)$ (1)

(e) $-12 \div -3$ (1)

(f) $(-2)^2$ (1)

3. (a) Express 42 km in metres. (1)

(b) Express 89 cm in metres. (1)

(c) Express 1.5 km in cm. (1)

4. Jack has 36 sweets and gives 12 of them to his brother. What fraction of the sweets does he keep? Write your answer in its simplest form. (3)
5. Write each of the following amounts to the nearest hundred pounds:
- (a) £325 (1)
 - (b) £2955 (1)
 - (c) £10 035 (1)
 - (d) 8950p (2)
6. Write down the first 5 multiples of 6. (1)
7. What is the third prime number? (1)
8. What is the eleventh square number? (1)
9. Write down 75% as a fraction and a decimal. (1)
10. A rectangle has an area of 36.8 cm^2 . If the width is 4 cm, what is the length? Hence find perimeter of the rectangle. (4)
11. A triangle has a perpendicular height of 4.2 cm and a base length of 5.0 cm. Find the area. (3)
12. Richard scores 84 out of 120 in a test. What percentage did he get in the test? (2)

13. Calculate the answer to the following, giving your answer in its simplest form.
- (a) $\frac{2}{3} + \frac{3}{4}$ (2)
- (b) $\frac{3}{4} - \frac{2}{3}$ (2)
- (c) $\frac{9}{14} \times \frac{16}{27}$ (3)
- (d) $\frac{8}{9} \div \frac{4}{3}$ (4)
14. A plane leaves Heathrow Airport at 19:15 on Tuesday for Tokyo. If the flight time takes 11 hours 35 minutes and Tokyo is 8 hours ahead of London, at what time and day does it land in Tokyo? (3)
15. Solve the following equations, giving your answer as a fraction in its simplest form where appropriate.
- (a) $3x - 2 = 4$ (2)
- (b) $5x = 2x + 9$ (2)
- (c) $9x - 3 = 3x + 5$ (3)
- (d) $3(2x - 4) = 30$ (3)
16. Simplify the following algebraic expressions.
- (a) $t + t + t + t$ (1)
- (b) $y \times y$ (1)
- (c) $2 \times 3g$ (1)
- (d) $2w + 3w$ (1)
- (e) $4t - 2t$ (1)
- (f) $9g \times 3g$ (1)
17. William jogs at 2 metres per second. How far does he jog in 12 minutes? (3)

Answers to Sample Questions

1. (a) 938
(b) 332
(c) 96
(d) 1272
(e) 46
(f) 44958
2. (a) 14
(b) -72
(c) -12
(d) 12
(e) 4
(f) 4
3. (a) 42 000 m
(b) 0.89 m
(c) 150 000 cm
4. $\frac{2}{3}$
5. (a) £300
(b) £3000
(c) £10 000
(d) £100
6. 6, 12, 18, 24, 30
7. 5
8. 121
9. Decimal: 0.75
Fraction: $\frac{3}{4}$
10. Length is 9.2 cm
Perimeter is 26.4 cm
11. 10.5 cm^2
12. 70%
13. (a) $\frac{17}{12}$
(b) $\frac{1}{12}$
(c) $\frac{8}{21}$
(d) $\frac{2}{3}$
14. 18:50 on Wednesday
15. (a) $x = 2$
(b) $x = 3$
(c) $x = \frac{4}{3}$
(d) $x = 7$
16. (a) $4t$
(b) y^2
(c) $6g$
(d) $5w$
(e) $2t$
(f) $27g^2$
17. 1440 m