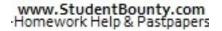# ST GEORGE'S COLLEGE WEYBRIDGE

12+ ENTRANCE EXAMINATION

MATHEMATICS

30 minutes

Read the following instructions carefully

- **There are 10 questions.** You should attempt all of them
- **Write your answers on the lined paper provided.** Make sure you write your name and your school's name on each piece of paper you use.
- **Write neatly and show all your working.** It may be possible to give you marks if your working makes sense, even if your final answer is wrong.
- **Keep an eye on the time.** Work carefully and steadily. Move on to another question if you find yourself spending too long on a question.
- **You may not use a calculator.**

1. Calculate
   a) $-18 - 7 + 4$
   b) $(-3) \times (-8) \div (-2)$

2. Round the following numbers correct to the stated degree of accuracy
   a) 7.2355 (to 2 decimal places)
   b) 15.8356 (to 2 significant figures)

   (2 marks)

3. Find   a) $\frac{3}{5}$ of 35

   (2 marks)

4. If $X = 3Y + 2$, find the value of:
   a) X when $Y = 4$
   b) Y when $X = 11$

   (3 marks)

5. Calculate
   a) $3 + 2 \times 7$
   b) $3 \times 4 + 3 \div 1$

   (3 marks)

6. Expand out the following brackets and simplify
   a) $3x + 2(x - 3y)$
   b) $7x - (2x - 4y)$

   (4 marks)

7. Express these decimals as fractions in their lowest terms:
   a) 0.6
   b) 0.025

   (3 marks)

8. Solve the following equations
   a) $2x - 3 = 9$
   b) $x + 3 = 3x - 7$

   (4 marks)

9. Express as a single number in index form:
   a) $3^2 \times 3^3$
   b) $3^6 \div 3^2$

   (2 marks)

10. Calculate
    a) $\frac{2}{5} + \frac{3}{7}$
    b) $1\frac{1}{3} \times \frac{5}{8}$

    (4 marks)