Mathsbase Exam Questions A lot

1) Calculate $\frac{2}{3}$ of 6. (1 mark)

Answer: _____

2) Find the combined ratio of $3:4$ and $5:6$. (2 marks)

Answer: _____

3) A jacket is on sale for 30% off its original price of £80. Calculate the sale price. (2 marks)

Answer: _____

4) Estimate the square root of 17 to the nearest whole number. (1 mark)

Answer: _____

5) A car is traveling at a speed of 60 mph. How many miles will it travel in 2.5 hours? (2 marks)

Answer: _____

6) Simplify $\frac{5}{6} + \frac{3}{8}$. (2 marks)

Answer: _____

7) Calculate $4^{\frac{3}{2}}$. (2 marks)

Answer: _____

8) Draw a box plot for the following data set: $\{1, 2, 3, 4, 5, 6, 6, 7, 8, 8, 9\}$. (3 marks)

Answer: _____

9) State the tangent rule for angles in a circle. (1 mark)

Answer: _____

10) Prove that the opposite angles of a cyclic quadrilateral add up to 180°. (3 marks)

Answer: _____

11) Multiply $\sqrt{2}$ by $\sqrt{3}$. (2 marks)

Answer: _____

12) Simplify $\frac{2x^2}{3xy}$. (2 marks)

Answer: _____

13) Determine the equation of the line that is parallel to $y = 2x + 3$ and passes through the point $(2,5)$. (3 marks)

Answer: _____

14) Determine the equation of the line that is perpendicular to $y = \frac{1}{2}x + 4$ and passes through the point $(1,3)$. (3 marks)

Answer: _____

15) Calculate the value of x in the equations $2x + 5 = 3x - 1$. (2 marks)

Answer: _____

16) Calculate $\frac{3}{\sqrt{2}}$. (2 marks)

Answer: _____

17) Simplify $\frac{2xy}{4x}$. (2 marks)

Answer: _____

18) Draw a scale diagram to represent a ratio of 3:4. (2 marks)

Answer: _____

19) Find the area of a circle with a radius of 5 cm. (2 marks)

Answer: _____

20) Simplify $2(x+3)-3x$. (2 marks)

Answer: _____

21) Determine the perimeter of a rectangle with length 8 cm and width 5 cm. (2 marks)

Answer: _____

22) Solve the equation $4x + 7 = 2x - 3$. (2 marks)

Answer: _____

23) Simplify $\frac{\sqrt{9}}{\sqrt{2}}$. (2 marks)

Answer: _____

24) Simplify $\frac{12x}{18}$. (2 marks)

Answer: _____

25) A triangle has side lengths of 5 cm, 7 cm, and 9 cm. Is it a right-angled triangle? (2 marks)

Answer: _____

26) Simplify $\sqrt{18}$ to its simplest surd form. (2 marks)

Answer: _____

27) Solve the equation $3(x+4)-5 = 2(2x-1)+1$. (3 marks)

Answer: _____

28) Simplify $\frac{4}{(x-1)^2}$. (3 marks)

Answer: _____

29) The sides of a triangle are in the ratio 3:4:5. If the perimeter of the triangle is 42 cm, find the length of the shortest side. (3 marks)

Answer: _____

30) Calculate the area of a circle with a diameter of 12 cm. (3 marks) Mark Scheme:

Answer: _____

1) 4 (1 mark)

Answer: _____

2) \(15:16\) (2 marks)

Answer: _____

3) £56 (2 marks)

Answer: _____

4) 4 (1 mark)

Answer: _____

5) 150 miles (2 marks)

Answer: _____

6) \(\frac{7}{4}\) or \(1.75\) (2 marks)

Answer: _____

7) 8 (2 marks)

Answer: _____

8) - The box plot should have a horizontal line at 3, a box from 4 to 7, and a vertical line at 9. (3 marks)

Answer: _____

9) Angles in the same segment are equal. (1 mark)

Answer: _____

10) - Opposite angles in a cyclic quadrilateral are supplementary. - Angles A + C = 180° - Angles B + D = 180° (3 marks)

Answer: _____

11) $\sqrt{6}$ (2 marks)

Answer: _____

12) $\frac{2}{3}$ (2 marks)

Answer: _____

13) $y = 2x + 1$ (3 marks)

Answer: _____

14) $y = -2x + 5$ (3 marks)

Answer: _____

15) $x = 6$ (2 marks)

Answer: _____

16) $\frac{3\sqrt{2}}{2}$ (2 marks)

Answer: _____

17) $\frac{y}{2}$ (2 marks)

Answer: _____

18) - A scaled diagram with three parts representing one quantity and four parts representing the other quantity. (2 marks)

Answer: _____

19) 25π cm^2 (2 marks)

Answer: _____

20) $2x+6$ (2 marks)

Answer: _____

21) 26 cm (2 marks)

Answer: _____

22) $x = -5$ (2 marks)

Answer: _____

23) $3\sqrt{2}$ (2 marks)

Answer: _____

24) $\frac{2x}{3}$ (2 marks)

Answer: _____

25) Yes (2 marks)

Answer: _____

26) $3\sqrt{2}$ (2 marks)

Answer: _____

27) $x = 1$ (3 marks)

Answer: _____

28) $\frac{4}{x^2-2x+1}$ (3 marks)

Answer: _____

29) 9 cm (3 marks)

Answer: _____

30) 36π cm^2 (3 marks)

Answer: _____