Mathsbase Exam Mini Mock 55 Minutes

1) Solve the simultaneous equations: $2x + 3y = 7$ $4x - 5y = 9$ (4 marks)

Answer: _____

2) Solve the simultaneous equations: $x + y = 6$ $3x - 2y = 10$ (4 marks)

Answer: _____

3) Solve the simultaneous equations: $7x - 3y = 17$ $5x + 2y = 3$ (4 marks)

Answer: _____

4) Solve the simultaneous equations: $4x + 3y = -5$ $2x - 5y = 7$ (4 marks)

Answer: _____

5) Determine the values of x that satisfy the inequality: $3x^2 - 5x < 10$ (3 marks)

Answer: _____

6) Solve the inequality: $-2x^2 + 4x > 10$ (3 marks)

Answer: _____

7) Solve the inequality: $2x^2 - 3x - 2 > 0$ (3 marks)

Answer: _____

8) Solve the inequality: $5x^2 + x \leq 6x$ (3 marks)

Answer: _____

9) Determine whether the following pairs of ratios are in proportion: 2:3 and 4:6 (2 marks)

Answer: _____

10) Determine whether the following pairs of ratios are in proportion: 5:9 and 10:18 (2 marks)

Answer: _____

11) Determine whether the following pairs of ratios are in proportion: 3:7 and 9:21 (2 marks)

Answer: _____

12) Determine whether the following pairs of ratios are in proportion: 2:5 and 8:11 (2 marks)

Answer: _____

13) Calculate the percentage change when 32 increases to 48. (2 marks)

Answer: _____

14) Calculate the percentage change when 400 decreases to 76. (2 marks)

Answer: _____

15) Calculate the percentage change when 80 increases to 90. (2 marks)

Answer: _____

16) Calculate the percentage change when 125 decreases to 90. (2 marks)

Answer: _____

17) A car traveled 300 km in 3 hours. Calculate the average speed. (3 marks)

Answer: _____

18) A train traveled 500 km in 5 hours. Calculate the average speed. (3 marks)

Answer: _____

19) A cyclist traveled 20 km in 40 minutes. Calculate the average speed. (3 marks)

Answer: _____

20) A runner traveled 15 km in 1.5 hours. Calculate the average speed. (3 marks)

Answer: _____

21) The diagram given represents a circle with center O. Determine the missing angle. (3 marks) [Insert description of the diagram: circle with center O and an inscribed angle indicated.]

Answer: _____

22) In a bag, there are 7 red balls and 5 blue balls. A ball is randomly selected, and then another ball is randomly selected without replacement. Determine the probability that both balls are red. (4 marks) [Insert mark scheme and answers at the end of the document.]

Answer: _____