



## Mathematics Assessment

Total Marks: 40

Answer all questions.

### Multiple Choice (10 marks)

1. Find the median in the set of data 23, 13, 18, 29, 32, 25.
  - (a) 18
  - (b) 24
  - (c) 25
  - (d) 29
2. What is three fifth of 100?
  - (a) 3
  - (b) 5
  - (c) 20
  - (d) 60
3. A circle passes through the points (3, 4) and (5, 7). Which of the following points **cannot** lie on the circle?
  - (a) (-2, -1)
  - (b) (-1, -2)
  - (c) (5, 5)
  - (d) (6, 4)
4. What is the largest factor of 54,321 that is less than 54,321?
  - (a) 6
  - (b) 121
  - (c) 18,107

- (d) 54,320
5. How many ways are there to choose 3 cards from a standard deck of 52 cards, if all three cards must be of different suits? (Assume that the order of the cards does not matter.)
- (a) 8,788  
(b) 2  
(c) 2,197  
(d) 21

## True / False (10 marks)

Answer True or False.

6. An outlier is an observation that is seen more frequently than the other observations in the data set.
7. The expression  $4(3 + 2)$  can be restated as  $4 \cdot 3 + 4 \cdot 2$  using the Distributive Property.
8. Five inches on a map with a scale of 1 inch equals 25 miles represents a distance of 50 miles.
9. The value of  $m$  that satisfies the equation  $124 = m + 34$  is 158.
10. The correct answer to “Evaluate  $\log_8 2$ ” is  $\frac{1}{3}$ .

## Long Form Response (20 marks)

Answer each question with a clear and complete explanation.

11. A puppy and two cats together weigh 24 pounds. The puppy and the larger cat together weigh exactly twice as much as the smaller cat, and the puppy and the smaller cat together weigh exactly the same as the larger cat. How many pounds does the puppy weigh?
12. Discuss how the number 12 can be categorized as a multiple of both positive and negative integers, providing a detailed analysis of the multiples it encompasses.

*End of Paper*