Part I

Answer all 24 questions in this part. Each correct answer will receive 2 credits. No partial credit will be allowed. Utilize the information provided for each question to determine your answer. Note that diagrams are not necessarily drawn to scale. For each statement or question, choose the word or expression that, of those given, best completes the statement or answers the question. Record your answers on your separate answer sheet. [48]

Use this space for computations.

1 A high school club is researching a tour package offered by the Island Kayak Company. The company charges \$35 per person and \$245 for the tour guide. Which function represents the total cost, $C(x)$, of this kayak tour package for x club members?

(1) $C(x) = 35x$

(2) $C(x) = 35x + 245$

(3) $C(x) = 35(x + 245)$

(4) $C(x) = 35 + (x + 245)$

2 The expression $3(x + 4) - (2x + 7)$ is equivalent to

(1) $x + 5$

(2) $x - 10$

(3) $x - 3$

(4) $x + 11$

3 A function is defined as $K(x) = 2x^2 - 5x + 3$. The value of $K(-3)$ is

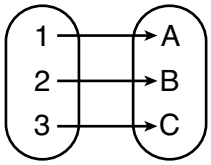
(1) 54

(2) 36

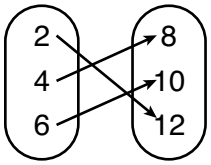
(3) 0

(4) -18

4 Which relation is *not* a function?



(1)



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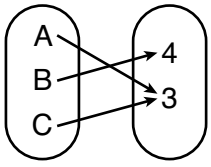

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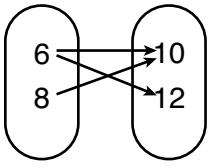

(4)

Use this space for computations.

5 The value of Tony's investment was \$1140 on January 1st. On this date three years later, his investment was worth \$1824. The average rate of change for this investment was \$19 per

(1) day
(2) month
(3) quarter
(4) year

6 The solution to $3(x - 8) + 4x = 8x + 4$ is

(1) 12
(2) 28
(3) -12
(4) -28

7 An ice cream shop sells ice cream cones, c, and milkshakes, m. Each ice cream cone costs \$1.50 and each milkshake costs \$2.00. Donna has \$19.00 to spend on ice cream cones and milkshakes. If she must buy 5 ice cream cones, which inequality could be used to determine the maximum number of milkshakes she can buy?

(1) $1.50(5) + 2.00m \geq 19.00$
(2) $1.50(5) + 2.00m \leq 19.00$
(3) $1.50c + 2.00(5) \geq 19.00$
(4) $1.50c + 2.00(5) \leq 19.00$

8 When written in standard form, the product of $(3 + x)$ and $(2x - 5)$ is

(1) $3x - 2$
(2) $2x^2 + x - 15$
(3) $2x^2 - 11x - 15$
(4) $6x - 15 + 2x^2 - 5x$

9 If $x = 2$, $y = 3\sqrt{2}$, and $w = 2\sqrt{8}$, which expression results in a rational number?

(1) $x + y$
(2) $y - w$
(3) $(w)(y)$
(4) $y \div x$

10 Which product is equivalent to $4x^2 - 3x - 27$?

(1) $(2x + 9)(2x - 3)$
(2) $(2x - 9)(2x + 3)$
(3) $(4x + 9)(x - 3)$
(4) $(4x - 9)(x + 3)$