

1. Which statement about the graph of $y = 8(0.25)^x$ true?
- A. The coordinates of the x-intercept are $(0.25, 0)$.
 - B. The equation of the asymptote is $x = 0$.
 - C. The coordinates of the y-intercept are $(0, 8)$.
 - D. The graph includes the point $(2, 1)$.

2. Which expression is equivalent to $(64p^3q^9)^{\frac{1}{3}}$ for all positive values of p and q ?

- A. $4pq^3$
- B. $8pq^3$
- C. $4p^3q$
- D. $8p^3q^6$

3. There are a 300 players in a chess tournament. In each round, half the players are eliminated. Which function can be used to find the number of players remaining in the tournament at the end of x rounds?

- A. $f(x) = 300(1.5)^x$
- B. $f(x) = 300(1.05)^x$
- C. $f(x) = 300(0.5)^x$
- D. $f(x) = 300(0.05)^x$

4. Which expression is equivalent to $(m^2 - 7m - 5)(m + 3)$?

- C. $m^3 - 10m^2 - 16m - 15$
- D. $m^3 - 4m^2 - 16m - 15$
- C. $m^3 - 4m^2 - 26m - 15$
- D. $m^3 - 10m^2 - 26m - 15$

5. What is the range of $y = -x^2 - 6x + 7$?

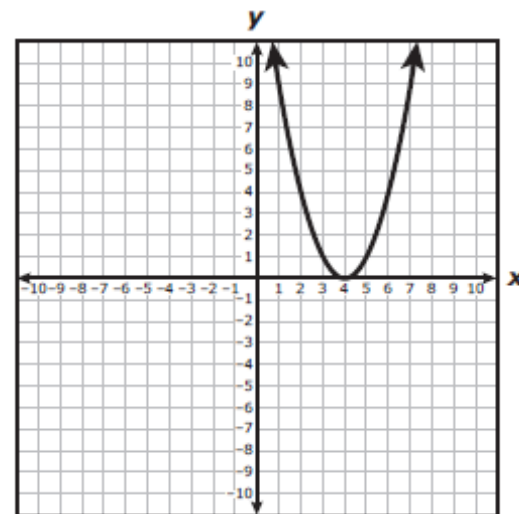
- A. $x \leq -16$
- B. $y \geq -16$
- C. $y \leq 16$
- D. $x \geq 16$

6. Which statement about $g(x) = x^2 - 900$ is true?

- A. The zeros, -450 and 450, can be found when $0 = (x - 450)(x + 450)$
- B. The only zero, 450, can be found when $0 = (x - 450)^2$
- C. The zeros, -30 and 30, can be found when $0 = (x - 30)(x + 30)$
- D. The only zero, 30, can be found when $0 = (x - 30)^2$

7. How many zeros does the quadratic graph below has?

- A. 0
- B. 1
- C. 2
- D. 4



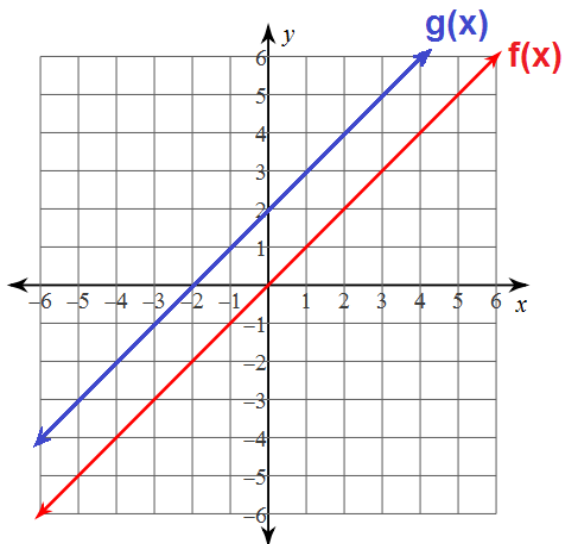
8. In a sequence of numbers, $a_3 = 2$, $a_4 = 7$, $a_5 = 12$, and $a_6 = 17$. Based on this information, which equation can be used to find the n_{th} term in the sequence, a_n ?

- A. $a_n = 5n - 13$
- B. $a_n = 13n - 5$
- C. $a_n = -5n + 13$
- D. $a_n = -13n + 5$

9. In the year 2000, the population of Palmview was 2214 people. Each year since 2000, the population has increased on average by about 4.15 % per year. Which function models the population of Palmview of in the year that is x years since 2000?

- A. $p(x) = 2214(0.415)^x$
- B. $p(x) = 2214(0.9585)^x$
- C. $p(x) = 2214(0.0415)^x$
- D. $p(x) = 2214(x)^{1.0415}$

10. The graphs of linear functions f and g are shown on the grid. Which function is best represented by the graph of g ?



- A. $g(x) = 2f(x)$
- B. $g(x) = f(x) - 2$
- C. $g(x) = f(x) + 2$
- D. $g(x) = \frac{1}{2}f(x)$

11. The table shows the linear relationship between the balance of a student's savings account and the number of weeks he has been saving.

Week	0	1	3	6	10
Balance (\$)	41	50	68	95	131

Based on the table, what was the rate of change of the balance of the student's savings account in dollars and cents per week? **Answer : _____ \$ / Week**

12. The graph of $g(x) = x^2$ was transformed to create the graph of $h(x) = -4x^2$. Which of these describes the transformation from the graph of g to the graph of h ?

- A. A reflection over the x-axis and a vertical stretch
- B. A reflection over the y-axis and a vertical stretch
- C. A reflection over the x-axis and a horizontal stretch
- D. A reflection over the y-axis and a horizontal stretch

13. What is the domain $f(x) = 13$?

- A. All real numbers.
- B. All real numbers greater than or equal to 13
- C. {13}
- D. All real numbers less than or equal to 13