

18. The total daily cost of making cell phones at a factory is a function of several factors: the product of the number of employees working each day,  $15x$ , and the number of cell phones that each employee makes per day,  $20x + 5$ . Added to this is the daily cost for the factory space, \$5,000. Which represents the total daily operating cost,  $C(x)$ , of the factory?

- A.  $C(x) = 35x^2 + 5,005$
- B.  $C(x) = 300x^2 + 75x + 5,000$
- C.  $C(x) = 300x^2 + 5,005$
- D.  $C(x) = 375x + 5,000$

19. Which of the following are the solutions to  $x^2 + 12x = 9$ , as found by completing the square?

- A.  $3\sqrt{5} + 6, 3\sqrt{5} - 6$
- B.  $\frac{\sqrt{3}}{2}, -\frac{\sqrt{3}}{2}$
- C.  $-6 - 3\sqrt{5}, -6 + 3\sqrt{5}$
- D.  $\sqrt{39}, -\sqrt{39}$

20. Yolanda tries to find the zeros of the quadratic function  $a(x) = 5x^2 - 4x + 8$ . She decides that  $a(x)$  has no real zeros. Which of the following could be her reason for correctly knowing this?

- A. because  $(-4)^2 - (4)(5)(8) < 0$
- B. because  $\frac{-(-4)}{(2)(5)} < 1$
- C. because  $\sqrt{(-4)^2} > 0$
- D. because  $(-4)^2 > (5)(8)$

21. Which describes all of the  $x$ - and  $y$ -intercepts of the function below?

$$f(x) = -\frac{1}{4}(x + 8)^2$$

- A.  $(-16, 0), (0, 8),$  and  $(16, 0)$
- B.  $(0, -16), (0, 16),$  and  $(8, 0)$
- C.  $(-8, 0)$  and  $(0, -16)$
- D.  $(0, -2)$  and  $(0, 2)$