LESSON 136 PSAT Practice

This is a timed practice test. Get a timer, a bubble answer sheet, and blank sheets of paper for your calculations. When you are ready, set the timer for **25 minutes** and begin. Do not use a calculator. Mark all your answers on the answer sheet. Only answers marked on the answer sheet can be scored. After the test, make sure you review what you missed.

1. $2m + 5 = 9 - m$
$n + 4 = 3(n - 2)$

According to the equations above, what is the value of $3m + 2n$?

A) 9 B) 10

C) 12 D) 14

2. If $32^2 \cdot 4^{-3} = 2^n$, what is the value of n ?

A) 1 B) 2 C) 4 D) 7

3. Which of the following is equivalent to the expression $x^2 - 5x + 6$?

A) $(x - 2)(x - 3)$ B) $(x - 2)(x + 3)$

C) $(x - 6)(x + 1)$ D) $(x - 6)(x - 1)$

4. Which of the following is equivalent to the expression $x^6 - x^3 + x^2$?

A) $x^3(x^3 - 1)$ B) $x^2(x^4 - x + 1)$

C) $x^2(x^6 - x^3)$ D) $x(x^5 - x^3 + x^2)$

5. $(x^3)^{\frac{1}{p}} = \sqrt[3]{x}$

If the equation above is true for all positive values of x, what is the value of p ?

A) 1 B) 3 C) 6 D) 9

6. $x^2 + 3x - 10 = 0$

If m and n are two solutions of the equation above, what is the value of $m + n$?

A) -7 B) -3 C) 3 D) 7

7. $x^2 - 2x - 1 = 0$

What are the solutions to the equation above?

A) $1 \pm \sqrt{2}$ B) $-1 \pm \sqrt{2}$

C) $\frac{1 \pm \sqrt{2}}{2}$ D) $\frac{-1 \pm 2\sqrt{2}}{2}$

8. $\frac{x^2 - 4}{x + 2} \cdot \frac{x + 1}{x - 2}$

Which expression is equivalent to the expression above?

A) $x + 1$ B) $x - 1$

C) $x + 2$ D) $x - 2$

9. $\frac{x}{x + 5} = \frac{2}{x} - \frac{5}{x + 5}$

What are all the values of x that satisfy the equation above?

A) -5 B) 2

C) 5 D) 2 and -5

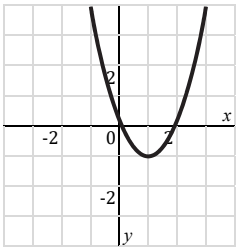
Continue to the next page.

10. The function $f(x)$ is a linear function such that $f(2) = 4$ and $f(0) = -2$. Which of the following defines f ?

A) $f(x) = x + 2$ B) $f(x) = 3x - 2$

C) $f(x) = 2x$ D) $f(x) = -x - 2$

11. Which of the following could be the equation of the graph shown below?



A) $y = x^2 - 1$

B) $y = x^2 + 2x$

C) $y = x^2 - 2x$

D) $y = -x^2 + 2x$

12. In an algebra test, Justin got $\frac{4}{5}$ of the problems correct and missed 5 problems. How many problems were in the test?

A) 10 B) 16 C) 20 D) 25

13. The scale on a map is 5 cm = 75 km. Two cities on the map are 3 cm apart. What is the actual distance between the two cities?

A) 0.2 km B) 4.5 km

C) 20 km D) 45 km

14. A rectangular garden has an area of 35 square feet. Its length is three feet shorter than twice its width. What is the perimeter of the garden?

A) 5 B) 7

C) 12 D) 24

15. A bakery sells pies by the slice or as whole pies. Each pie is cut into 8 slices. On a certain day, the bakery sold a total of 58 slices of pies, and 10 of them were sold by the slice. Which expression shows the number of pies sold as whole pies on that day?

A) $\frac{58 - 10}{8}$ B) $\frac{58 + 10}{8}$

C) $\frac{58}{8} - 10$ D) $\frac{58}{8} + 10$

16. $h(t) = -16t^2 + 32t + 128$

A ball is thrown straight up from a height of 128 feet with an initial speed of 32 feet per second. Its height h, in feet, after t seconds is given by the function above. Which of the following is an equivalent form of the function that displays the time the ball takes to hit the ground?

A) $h(t) = -16(t - 1)^2 + 144$

B) $h(t) = -16(t + 1)^2 + 144$

C) $h(t) = -16(t - 2)(t + 4)$

D) $h(t) = -16(t + 2)(t - 4)$

17. Pipe A can fill a tank in 2 hours. Pipe B can fill the tank in 3 hours. How long will it take to fill the tank if both pipes are used?

A) 1 hour B) 1.2 hours

C) 2.5 hours D) 5 hours

STOP

This is the end of the test. If you finish before time is up, check your work.