

LESSON 137 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. $|2x + 3| = 7$

If a and b are the solutions to the equation above, what is the value of $|a + b|$?

- A) 0 B) 3 C) 7 D) 10

2. If $-1 \leq 2 - x < 4$, what is the greatest possible integer value of x ?

- A) 1 B) 2 C) 3 D) 5

3. $\sqrt{16x^4}$,

If $x > 0$, which of the following is equivalent to the expression above?

- A) $2x$ B) $2x^2$ C) $4x$ D) $4x^2$

4. $x + 2y = 0$ and $2x + 3y = 2$

If (p, q) is a solution to the system above, what is the value of $p + q$?

- A) -2 B) 1 C) 2 D) 6

5. $x^2 - 2x - 4k$

If $x + 2$ is a factor of the expression above, what is the value of k ?

- A) -8 B) -2 C) 2 D) 8

6. $3x^2 - 8x - 3 = 0$

If p and q are two solutions of the equation above, what is pq ?

- A) -9 B) -1 C) 1 D) 9

7. If $2^x \cdot 8^3 = 2^{10}$ and $\sqrt[3]{27^2} = 3^y$, what is the value of $y - x$?

- A) 1 B) 3
C) 4 D) 5

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

Which expression is equivalent to the expression above?

- A) $x - 1$ B) $x + 1$
C) $\frac{x - 1}{x + 1}$ D) $\frac{x + 1}{x - 1}$

9. $\frac{5}{x} + \frac{x}{x - 3} = \frac{1}{x}$

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

- A) -6 B) 2
C) 3 D) 2 and -6

Continue to the next page.

10. Olivia has x one-dollar bills and y five-dollar bills totaling \$20. Which of the following expresses the value of x in terms of y ?

A) $x = 20 - 5y$ B) $x = 5y - 20$
 C) $x = \frac{20 - y}{5}$ D) $x = \frac{y - 20}{5}$

11. A monitor factory has a defect rate of 0.2%. An inspector checks 1,000 monitors. Which of the following is the best estimate for the number of monitors that will be found defective?

A) 1 B) 2 C) 10 D) 20

12. Joey's car uses 2 gallons of gas to travel 60 miles. This weekend Joey drove 210 miles at an average speed of 70 miles per hour. Approximately how many gallons of gas did Joey's car use this weekend?

A) 1.75 gallons B) 3 gallons
 C) 3.5 gallons D) 7 gallons

13. In the xy -plane, a parabola has two x -intercepts at the points $(-1, 0)$ and $(3, 0)$. The vertex of the parabola occurs at the point $(p, -4)$. What is the value of p ?

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

14. $f(x) = ax^2 + x + 5$

Given the function above, what is the value of $f(-2)$ when $f(2) = 3$?

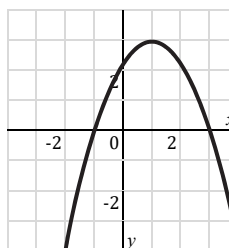
A) -7 B) -5 C) -1 D) 7

15. The table below shows some values of the function f . If the graph of f is a line, which of the following defines f ?

x	1	3	5	7
$f(x)$	3	7	11	15

A) $f(x) = 2x$ B) $f(x) = -x + 4$
 C) $f(x) = 2x + 1$ D) $f(x) = x^2 + 2$

16. The graph of $y = ax^2 + bx + c$ is shown below. Which of the following must be true?



A) $a > 0$
 B) $c < 0$
 C) $ac < 0$
 D) $ac > 0$

17. Machine A can finish a job in an hour. Machine B can finish the same job in x minutes. When both machines are used, they can finish the job in 20 minutes. What is the value of x ?

A) 1 hour B) 30 minutes
 C) 20 minutes D) 15 minutes

STOP

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