LESSON 91 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. $3x + 5 = 6(x + 1)$

If x is a solution to the equation above, what is the value of $3x + 1$?

A) 0 B) 2 C) 7 D) 5

2. $f(x) = |x| + 3$

What is the range of the function above?

A) $f(x) \geq 0$ B) $f(x) \geq 3$

C) $f(x) \leq 3$ D) All real numbers

3. $(2x^2 + x + 3y) - (x^2 - x + 2y)$

Which of the following is equivalent to the expression above?

A) $x^2 + 5y$ B) $x^2 + 2x + y$

C) $3x^2 + 5y$ D) $3x^2 + 2x + 5y$

4. If $x + 6$ is multiplied by $x - 3$, what is the resulting coefficient of x ?

A) -9 B) -3 C) 3 D) 9

5. Which of the following is equivalent to the expression $\sqrt{12} - \sqrt{3}$?

A) $\sqrt{3}$ B) $2\sqrt{6} - \sqrt{3}$

C) $3\sqrt{3}$ B) $6\sqrt{2} - \sqrt{3}$

6. If $16^{-2} = \left(\frac{1}{2}\right)^n$, what is the value of n ?

A) 4 B) 6 C) 8 D) 10

7. $\left(x^{\frac{1}{2}}y^{\frac{1}{4}}\right)(x^2y^4) = x^a y^b$

If the equation above is true for all positive values of x and y, what is the value of $a + 2b$?

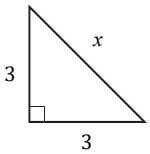
A) 2 B) 3 C) 9 D) 11

8. If y varies directly with x, and $y = 3$ when $x = 2$, which equation relates x and y ?

A) $xy = 6$ B) $y = 6x$

C) $y = \frac{3}{2}x$ D) $y = x + 1$

9. What is the value of x in the right triangle below?



A) $2\sqrt{3}$

B) $3\sqrt{2}$

C) 5

D) 9

Continue to the next page.

10. Kyle's car uses 4 gallons of gas to travel 96 miles. How many miles can Kyle drive on 3 gallons of gas?

A) 24 B) 72

C) 125 D) 168

11. Lillian bought 2 yards of fabric. She cut it into strips that are 8 inches wide. How many strips did she make? (1 yard = 3 feet and 1 foot = 12 inches)

A) 3 B) 6 C) 9 D) 12

12. A group of 5 friends went out for dinner. The bill was \$90 plus a 20% tip. If they split the bill evenly, which expression can be used to determine the amount of money, x, each person paid?

A) $\frac{90 + 0.2}{5}$ B) $\frac{90 + 1.2}{5}$

C) $\frac{90}{5} + 90 \cdot 0.2$ D) $\frac{90 + 90 \cdot 0.2}{5}$

13. Liam deposited \$1,000 in his savings account. The table below shows the balance y, in dollars, of the account after x years. Which of the following best describes the data in the table?

x	0	1	2	3	4
y	1,000	1,030	1,060	1,090	1,120

A) Linear, increasing by \$30 per year

B) Linear, increasing by \$50 per year

C) Exponential, increasing by 3% per year

D) Exponential, increasing by 6% per year

14. A line has a slope of 3 and a y-intercept of -2. Which of the following is an equation of the line?

A) $x - 3y = 6$ B) $x + 3y = -6$

C) $3x - y = 2$ D) $3x + y = -2$

15. A moving truck rental costs \$20 for the first day and \$10 for each day after the first. Which function gives the total cost, C, of renting a truck for d days?

A) $C(d) = 20 + 10d$

B) $C(d) = 20 + 10(d - 1)$

C) $C(d) = 30 + 10d$

D) $C(d) = 30 + 10(d - 1)$

16. A gym membership costs \$30 to join and \$15 each month. Carol joined the gym and also rented a locker at \$2 per month. Which expression represents Carol's total cost after x months?

A) $30 + 2 + 15x$ B) $30 + (15 + 2)x$

C) $30 + 15 + 2x$ D) $(30 + 15 + 2)x$

17. A 100-point test has a total of 16 questions. The multiple-choice questions are worth 6 points each, and the short-answer questions are worth 8 points each. What is the ratio of the number of multiple-choice questions to the number of short-answer questions?

A) 2:1 B) 3:1 C) 3:2 D) 7:1

STOP

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