

## Putnam County Algebra Exit Exam (Sample)

Select the **best** answer for each question.

1. Simplify

$$-8 - |-6| \cdot 3 \cdot (-4)$$

A. 65

C. 70

B. 64

D. 62

Simplify. Your answer should contain only positive exponents.

2.  $n^{-4} \cdot 2n^3 \cdot 4n^2$

A.  $3n^9$

C.  $8n$

B.  $n$

D. 4

3.  $r^3 \cdot r^2$

A.  $4r^3$

C.  $6r^8$

B.  $r^5$

D.  $16r^5$

4.  $4x \cdot 2x^{-2}$

A.  $\frac{8}{x}$

C.  $\frac{12}{x}$

B.  $6x^8$

D.  $16x^3$

5. Which statement is FALSE?

A. An algebraic expression contains at least one variable and at least one mathematical operation.

B. A numerical expression contains only numbers and mathematical operations.

C. A variable stands for a known number: its value is always the same.

D. An equation is a sentence that contains an equal sign.

6. Choose the correct expression for "the sum of two and the quotient of  $r$  and  $s$ ."

A.  $2 + \frac{r}{s}$

C.  $\frac{r}{2+s}$

B.  $\frac{r+2}{s}$

D.  $\frac{r}{2} + s$

7. Simplify  $(a-4b)(a+4b)$

A.  $a^2 - 8ab + 16b$

C.  $a^2 + 16b^2$

B.  $a^2 - 16b^2$

D.  $a^2 + 8ab - 16b^2$

8. Factor completely.  $3x^2 - 12x^3$

A.  $3(x^2 - 4x^3)$

C.  $3x^2(-4x)$

B.  $3x^2(1-4x)$

D.  $3x(x-4)$

9. Simplify the expression.  $\frac{3a-4b}{6b} + \frac{a-2b}{6b}$

A.  $\frac{2a-3b}{3b}$

C.  $\frac{-7ab+a+6b}{3b}$

B.  $\frac{2a+b}{2b}$

D.  $\frac{a-2b}{6b}$

10. Simplify

$$(3x^2 + 9x + 2) - (-3 + 7x^2)$$

A.  $10x^2 + 9x$

C.  $10x^2 - 1$

B.  $-4x^2 + 9x + 5$

D.  $10x^2 + 9x + 5$

11. Simplify

$$\sqrt{45}$$

A.  $5\sqrt{5}$

B.  $3\sqrt{5}$

C.  $4\sqrt{2}$

D.  $9\sqrt{5}$

12. Simplify

$$\sqrt{50}$$

A.  $2\sqrt{3}$

B.  $2\sqrt{5}$

C.  $3\sqrt{5}$

D.  $5\sqrt{2}$

13. Give the degree of the polynomial.

$$5x^2y^3 - 2x^3y^3 + 7x^2 - 7y^3$$

A. 2

B. 5

C. 6

D. 3

