

**Directions:** Please choose the best answer choice for each of the following questions.

1. Simplify the following.

$$(x^4)^2$$

- A.  $x^2$
- B.  $x^6$
- C.  $x^8$
- D.  $x^{16}$

2. Simplify the expression.

$$x(4x^4)^3$$

- A.  $64x^7$
- B.  $64x^8$
- C.  $64x^{12}$
- D.  $64x^{13}$

3.  $15b^0c^8d^{-6} \times 7bc^3d^5 =$

- A.  $\frac{105c}{bd}$
- B.  $\frac{105b}{d^{11}}$
- C.  $\frac{105bc^{11}}{d}$
- D.  $\frac{105c^5}{bd^{11}}$

4.  $\frac{(6p^2q^3r)^2}{18p^3q^7r} =$

- A.  $2p^5q^{13}r^3$
- B.  $2pr^2$
- C.  $\frac{pq^3r}{3q}$
- D.  $\frac{2pr}{q}$

5. What is  $72a^4b^6$  divided by  $3^2a^2b^3$ ?

- A.  $2^2a^2b^2$
- B.  $2^3a^2b^3$
- C.  $8^2a^2b^3$
- D.  $24a^2b^3$

6. Which of the following is equivalent to  $(4x + 1) + (6 - 2x)$ ?

- A.  $2x + 7$
- B.  $6x + 6$
- C.  $6x + 7$
- D.  $2x + 6$

7.  $(2x^2 - 3x + 4) - (3x^2 - x + 2) =$

- A.  $x^2 - 2x - 2$
- B.  $-x^2 - 4x + 2$
- C.  $-x^2 - 2x + 2$
- D.  $x^2 - 4x - 2$

8.  $(x + 5)(x + 1) =$

- A.  $2x + 6$
- B.  $x^2 + 6$
- C.  $x^2 + 6x + 6$
- D.  $x^2 + 6x + 5$

9. The Fredricks are building a rectangular pool in their yard. They measured the width to be  $x - 5$  and the length to be  $4x + 6$ . What is the perimeter of their pool?

- A.  $5x + 1$
- B.  $10x + 2$
- C.  $4x^2 - 30$
- D.  $4x^2 - 14x + 30$

10. Gene planted 8 rows of magnolias. There are  $5x - 2$  magnolias in each row. How many magnolias did Gene plant?

- A.  $5x - 16$
- B.  $5x + 6$
- C.  $40x - 2$
- D.  $40x - 16$

**Stop! You have finished this exam.**