

1. Multiply: $(3x - 1)(2x + 5)$

- A. $6x^2 + 6x - 5$
- B. $6x^2 - 13x + 4$
- C. $6x^2 + 13x - 5$
- D. $6x^2 + 17x - 5$

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

- A. $x^2 - 16$
- B. $x^2 + 16$
- C. $x^2 - 8x - 16$
- D. $x^2 - 8x + 16$

3. Add: $(5x^3 - 3x + 7) + (2x^3 + 6x^2 - x)$

- A. $7x^3 + 3x^2 - x + 7$
- B. $7x^3 - 3x^2 - x + 7$
- C. $7x^3 + 6x^2 - 4x + 7$
- D. $7x^3 + 6x^2 - 2x + 7$

4. Subtract: $(9x^2 + 3x - 4) - (3x^2 + 8x - 1)$

- A. $6x^2 - 5x - 3$
- B. $6x^2 + 5x - 5$
- C. $6x^2 + 11x - 5$
- D. $6x^2 - 5x - 4$

5. What is the greatest common factor of the expression below?

$$24a^6b^2 - 18a^3b + 12a^2b^3$$

- A. $2ab$
 - B. $2a^3b^2$
 - C. $6a^2b$
 - D. $6a^6b^3$
6. Divide: $(18m^5p^4 + 36m^7p^3 - 4m^3p)$ by $(2m^3p)$

- A. $9m^2p^3 + 18m^4p^2 - 2$
- B. $12m^2p^3 + 34m^4p^2 - 2$
- C. $9m^2p^3 + 18m^4p^2 - 2mp$
- D. $12m^2p^3 + 34m^4p^2 - 2mp$

7. Which is equivalent to $3x^2 \cdot 2x^4$?

- A. $5x^6$
- B. $5x^8$
- C. $6x^6$
- D. $6x^8$

8. Which expression is equivalent to $(g^6h^3)^3$?

- A. g^9h^6
- B. g^9h^9
- C. $g^{18}h^6$
- D. $g^{18}h^9$

9. The volume (V) of a right circular cone can be found using the formula

$$V = \frac{1}{3}\pi \cdot r^2h, \text{ where } r \text{ is the radius and } h \text{ is the height.}$$

Which equation represents the volume of a right circular cone with a radius of $6x$ and a height of 5 ?

- A. $V = 20\pi \cdot x$
- B. $V = 20\pi \cdot x^2$
- C. $V = 60\pi \cdot x$
- D. $V = 60\pi \cdot x^2$

10. Simplify: $\frac{15m^7c^6}{3mc^2}$

A. $5m^6c^3$

B. $5m^6c^4$

C. $5m^7c^4$

D. $12m^6c^4$

11. Factor: $4x^2 - 1$

Answer _____

12. Factor: $x^2 - 3x - 28$

Answer _____

13. Simplify: $\sqrt{252}$

A. $6\sqrt{7}$

B. $7\sqrt{6}$

C. $7\sqrt{36}$

D. $36\sqrt{7}$

14. Simplify: $-3m - \frac{1}{5}(50m + 100) - 1$

A. $-48m - 1$

B. $-13m + 19$

C. $-13m - 21$

D. $-13m - 2$

15. Simplify: $\sqrt{9a^{100}}$

- A. $4.5a^{50}$
- B. $3a^{50}$
- C. $4.5a^{10}$
- D. $3a^{10}$

16. Factor: $6x^2 - x - 15$

- A. $(2x + 3)(3x - 5)$
- B. $(6x + 5)(x - 3)$
- C. $(6x + 1)(x - 15)$
- D. $(2x - 3)(3x + 5)$