

WORKSHEET # 11 [6.3 & 6.4]

1. Divide: $\frac{3x^5 + 5x^6 + 15x^2}{3x^3}$

[A] $x^2 + \frac{5}{3}x^3 + 5x^{-1}$ [B] $x^5 + \frac{5}{3}x^6 + 5x^2$

[C] $x^2 + 5x^3 + x^{-1}$ [D] $x^5 + 5x^6 + 5x^2$

2. Reduce to lowest terms: $\frac{x^2 + 2x - 24}{x^2 - 36}$

[A] $\frac{x+6}{x+4}$ [B] $\frac{-2x+24}{36}$

[C] $\frac{x-4}{x-6}$ [D] $\frac{x+4}{x+6}$

3. Reduce to lowest terms: $\frac{v+9}{v^2-81}$

Simplify:

4. $\frac{x^2 + 2x - 3}{1 - x}$

[A] $(x+3)$ [B] $(x-3)$
[C] $-(x-3)$ [D] $-(x+3)$

5. $\frac{x^2 + 3x - 10}{2 - x}$

6. $\frac{-5x}{x+x^2}$

[A] $\frac{5}{x+1}$ [B] $-\frac{5}{x-1}$

[C] $-\frac{5}{x+1}$ [D] $\frac{5}{x-1}$

Multiply:

7. $\frac{3y^2}{5} \cdot \frac{20x}{12y}$

[A] $\frac{20xy}{3}$ [B] $\frac{4x}{3}$ [C] xy [D] $\frac{4xy^2}{9}$

8. $\frac{6y^2}{5} \cdot \frac{25x}{15y}$

9. $\frac{b^2}{cd} \cdot \frac{7c^3d}{3b}$

[A] 1 [B] $\frac{3b^3}{7c^4d^2}$ [C] $\frac{7bc^2}{3}$ [D] $\frac{7b^2c^3}{3bcd}$

10. $\frac{x-1}{4x-y} \cdot \frac{16x^2-y^2}{3x^2+x-4}$

[A] $\frac{4x-y}{7x+1}$ [B] $\frac{4x^2+y^2}{3x+4}$

[C] $\frac{4x+y}{7}$ [D] $\frac{4x+y}{3x+4}$

11. $\frac{a^2-12a+35}{a-5} \cdot \frac{a^2-3a-28}{(a-7)^2}$

Divide:

12. $\frac{x+6}{x-6} \div \frac{x^2-36}{6-x}$

[A] $\frac{1}{x-6}$ [B] $\frac{x+6}{x-6}$

[C] $\frac{1}{6-x}$ [D] $\frac{1}{8-x}$

13. $\frac{x+6}{x-6} \div \frac{x^2-36}{6-x}$

Divide:

$$14. \frac{3x^2 - 14x + 8}{3x^2 - 8x + 4} \div \frac{x^2 - 3x - 4}{5x^2 - 5x - 10}$$

- [A] 4 [B] $x+1$ [C] $x-4$ [D] 5

$$15. \frac{14}{y^2 - 4y - 12} \div \frac{2y}{y - 6}$$

$$16. \frac{s^2 + 10s + 24}{s^2 + 7s + 12} \div \frac{s^2 - 36}{s^2 + 6s + 9}$$

[A] $\frac{(s+6)^2(s-6)}{(s+3)^2(s+3)}$ [B] $\frac{s-6}{s+3}$

[C] $\frac{s+3}{s-6}$ [D] $\frac{(s+3)^2(s+3)}{(s+6)^2(s-6)}$

Simplify:

$$17. \frac{1-x}{x+3} \div \frac{x^3-1}{x-2} \cdot \frac{x^3+27}{x-2}$$

[A] $\frac{x^2-3x+9}{x^2-x+9}$ [B] $\frac{x^2+3x+1}{x^2-x+9}$

[C] $\frac{-(x^2-3x+9)}{x^2+x+1}$ [D] $\frac{-(x^2+3x+1)}{x^2+x+1}$

$$18. \frac{1-x}{x+2} \div \frac{x^3-1}{x+5} \cdot \frac{x^3+8}{x+5}$$

$$19. \frac{21}{d^2} \cdot \frac{d^9}{2} \div \frac{3}{d^8}$$

[A] $\frac{7d^{15}}{2}$ [B] $\frac{63}{2d}$ [C] $\frac{7d^{36}}{2}$ [D] $\frac{14}{d^3}$

$$20. \frac{15}{u^2} \cdot \frac{u^4}{2} \div \frac{3}{u^3}$$