

MAT 1033 - Practice B for Test 1

Part One – Chapter Six

1 – 2. SIMPLIFY: 1. $\frac{5x-20}{10x}$ 2. $\frac{3m^3+6m^2}{6m^2+12m}$

3 – 14. PERFORM INDICATED OPERATIONS. BE SURE THAT YOUR ANSWER IS SIMPLIFIED:

3. $\frac{12x}{7y^2} \cdot \frac{14y^4}{15x^3}$ 4. $\frac{x^2+3x}{x^2-2x} \cdot \frac{x^2+7x-18}{x^2-9}$ 5. $\frac{x^2+3x-10}{2x+12} \div \frac{x^2+8x+15}{x+6}$

6. $\frac{x^2-x-2}{x^2-4} \div (4-2x)$ 7. $\frac{3m}{m+5} - \frac{2m}{m+5}$ 8. $\frac{12}{5m} - \frac{2}{5m}$

9. $\frac{4x-3}{3x+1} + \frac{x+3}{3x+1}$ 10. $\frac{x+1}{2x^2} + \frac{3}{4x}$ 11. $\frac{5x-2}{4x-8} - \frac{3x+2}{4x-8}$

12. $\frac{t^2}{t-2} + \frac{4}{2-t}$ 13. $\frac{x}{x-4} - \frac{2x}{x^2-16}$ 14. $\frac{3}{x+4} + \frac{2x}{x^2-16}$

PART 2 – Review Sections:

1. **Evaluate** $2a^2b - a$ for $a = -2$ and $b = 3$

2 – 6. PERFORM THE INDICATED OPERATIONS:

2. $5a^2(3a^3 - 2a)$ 3. $(5X^2 - 3X + 2) - (X^2 + X - 6)$ 4. $(X + 2)(X^2 + 3X - 1)$

5. $(X - 3)(5X + 4)$ 6. $(3X - 4)^2$

7 – 14. Factor completely:

7. $xy^2 - x^2y^3$ 8. $x^2 - 10x + 24$ 9. $2x^2 - 32$ 10. $5x^2 - 13x - 6$

11. $27 - x^3$ 12. $7x^2 + 7y^2$ 13. $2y^3 + 16$ 14. $x^4 - 81$

15 – 17. Simplify:

15. $-4^2 + (-3)^2$ 16. $24 \div 4 \cdot 3 - 5 + 1$ 17. $3 - |4 - 2(3)^3|$

Answers:

Part 1: 1. $\frac{x-4}{2x}$ 2. $\frac{m}{2}$ 3. $\frac{8y^2}{5x^2}$ 4. $\frac{x+9}{x-3}$ 5. $\frac{x-2}{2(x+3)}$ 6. $\frac{-(x+1)}{2(x-2)(x+2)}$ 7. $\frac{m}{m+5}$

8. $\frac{2}{m}$ 9. $\frac{5x}{3x+1}$ 10. $\frac{5x+2}{4x}$ 11. $\frac{1}{2}$ 12. $t+2$ 13. $\frac{x^2+2x}{(x-4)(x+4)}$ 14. $\frac{5x-12}{(x+4)(x-4)}$

Part 2: 1. 26 2. $15a^5 - 10a^3$ 3. $4x^2 - 4x + 8$ 4. $x^3 + 5x^2 + 5x - 2$ 5. $5x^2 - 11x - 12$

6. $9x^2 - 24x + 16$ 7. $xy^2(1 - xy)$ 8. $(x-6)(x-4)$ 9. $2(x+4)(x-4)$

10. $(5x+2)(x-3)$ 11. $(3-x)(9+3x+x^2)$ 12. $7(x^2+y^2)$ 13. $2(y+2)(y^2-2y+4)$

14. $(x^2+9)(x+3)(x-3)$ 15. -7 16. 14 17. -47