

## Algebra 3 Assignment # 13

**Simplify Completely:**

$$(1) \frac{6a^2x^2 - 8a^4x^6}{2a^2x^2}$$

$$(2) \frac{x^2 - 5x}{5 - x}$$

$$(3) \frac{n+1}{n^2-1}$$

$$(4) \frac{3x^2 + 3x - 6}{2x^2 + 6x + 4}$$

$$(5) \frac{4x^2 + 12x + 9}{4x^2 - 9}$$

$$(6) \frac{a^2 - 16b^2}{a^3 + 64b^3}$$

$$(7) \frac{2x^2}{y} \cdot \frac{y^2}{x^3}$$

$$(8) \frac{2a}{3} \cdot \frac{3}{a^2} \cdot \frac{1}{a}$$

$$(9) \frac{3x}{2y} - \frac{x}{2y}$$

$$(10) \frac{a-2b}{2} - \frac{3a+b}{3}$$

$$(11) \frac{x-1}{3} \cdot \frac{x^2+1}{x^2-1}$$

$$(12) \frac{1-x}{2+x} \div \frac{x^2-x}{x^2+2x}$$

$$(13) \frac{3y}{y+1} + \frac{2y}{y-1}$$

$$(14) \frac{2x^2}{x^2+x} + \frac{x}{x+1}$$

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Answers:

1.  $3 - 4a^2x^4$

2.  $-x$

3.  $\frac{1}{n-1}$

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

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

6.  $\frac{a-4b}{a^2 - 4ab + 16b^2}$

7.  $\frac{2y}{x}$

8.  $\frac{2}{a^2}$

9.  $\frac{x}{y}$

10.  $\frac{-3a-8b}{6}$

11.  $\frac{x^2+1}{3(x+1)}$

12.  $-1$

13.  $\frac{y(5y-1)}{(y^2-1)}$

14.  $\frac{3x}{x+1}$