

Each problem is worth 5 points. For full credit provide complete justification for your answers.

1. Add  $\frac{3x+8}{x^2} - \frac{2x-1}{x^3} - \frac{5}{8x}$  and reduce if necessary.

$$\frac{8x}{8x} \left( \frac{3x+8}{x^2} \right) - \frac{8}{8} \left( \frac{2x-1}{x^3} \right) - \left( \frac{5}{8x} \right) \frac{x^2}{x^2} = \frac{24x^2 + 64x}{8x^3} - \frac{16x - 8}{8x^3} - \frac{5x^2}{8x^3}$$

$$\frac{19x^2 + 48x + 8}{8x^3}$$

Excellent

2. Simplify  $-3(x^3+3)^4(3x^2)$ , and write the answer using positive exponents only.

$$-3(x^3+3)^4(3x^2)$$

$$\frac{-3(3x^2)}{(x^3+3)^4} = \frac{-9x^2}{(x^3+3)^4}$$

Great

3. Simplify  $(16x^{12}y^{-4})^{1/4}$

$$(16x^{12}y^{-4})^{1/4}$$

$$= 2x^3y^{-1}$$

Good

$$= \frac{2x^3}{y}$$