Ch. 6 Review

Dividing Polynomials

1) $(n^3 + 8n^2 - 13n - 23) \div (n - 2)$

2) $(8m^3 - 20m^2 - 7m - 8) \div (m - 3)$

3) $(10v^3 + 87v^2 + 58v + 13) \div (v + 8)$

4) $(x^3 - 4x^2 + 8x - 11) \div (x - 3)$

Dividing Rational Expressions

5) $\frac{9}{x + 10} \div \frac{x^2 + 13x + 36}{x + 10}$

6) $\frac{5}{35a - 21} \div \frac{1}{35a - 21}$

7) $\frac{x + 4}{x + 8} \div \frac{x + 4}{9x + 72}$

8) $\frac{9a}{9a^2 - 54a} \div \frac{5a^2}{a^2 - 7a + 6}$

Multiplying Rational Expressions

9) $\frac{5m^3 + 30m^2}{6m} \cdot \frac{6m}{5m^3 + 5m^2}$

10) $\frac{x^2 + 2x + 1}{9} \cdot \frac{1}{x + 1}$

11) $\frac{1}{30k} \cdot \frac{5k - 25}{k - 5}$

12) $\frac{4a}{9} \cdot \frac{9a + 54}{a + 6}$

Add/Subtract Rational Expressions

13) $\frac{5}{3x + 4} + \frac{2}{5x}$

14) $\frac{5}{6} + \frac{r + 5}{3r + 6}$

15) $\frac{3x}{9x + 18} - \frac{4}{2x}$

16) $\frac{5m}{m - 4} - \frac{3m}{m - 2}$

Solving Rational Equations

17) $\frac{1}{3r} = \frac{r+5}{r^2} + \frac{1}{r^2}$

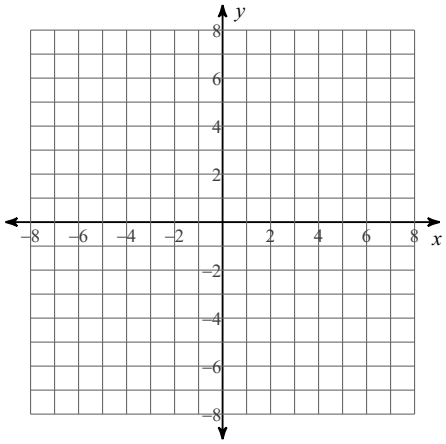
18) $\frac{1}{4n} + \frac{1}{4n^2} = \frac{n-3}{2n^2}$

19) $\frac{x-2}{x^2} = \frac{x-6}{2x^2} - \frac{1}{2x}$

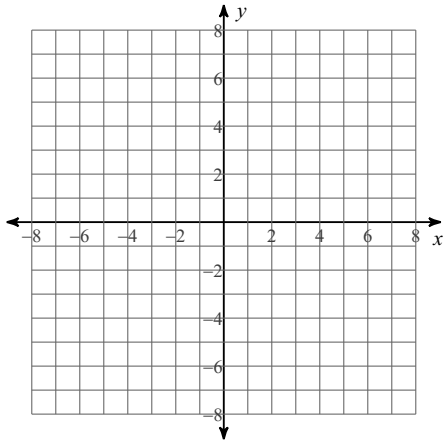
20) $\frac{1}{2v^2} + \frac{v-4}{2v^2} = \frac{1}{v^2}$

Graph each function.
Label all Asymptotes and Test points.

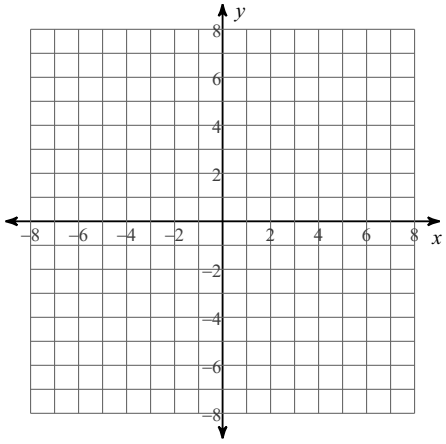
21) $f(x) = -\frac{4}{x-1}$



22) $f(x) = -\frac{3}{x-2}$



23) $f(x) = -\frac{1}{x+2}$



24) $f(x) = \frac{3}{x-2} + 2$