

Review - End of PC Functions

Hour _____

Solve each equation. Remember to check for extraneous solutions.

1)
$$\frac{p+3}{2p} - \frac{1}{4p^2+28p} = \frac{p+4}{2p}$$

2)
$$\frac{a-4}{a-6} - \frac{1}{a^2-12a+36} = \frac{a-8}{a-6}$$

Simplify each expression.

3)
$$\frac{2r}{3r} - \frac{5}{60r^2+132r+72}$$

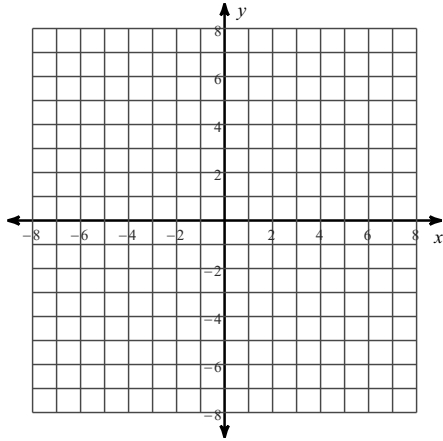
4)
$$\frac{4}{x-2} + \frac{5x}{15x+15}$$

5)
$$\frac{18b+36}{21b^3+42b^2} \div \frac{6}{b^2-4b-12}$$

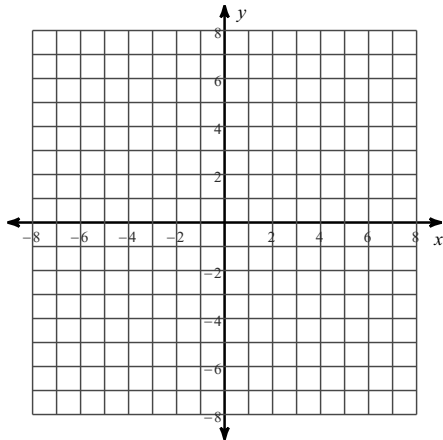
6)
$$\frac{4x-4}{4x-20} \div \frac{7x+63}{7}$$

Identify the holes, vertical asymptotes, x-intercepts, y-intercepts, and horizontal asymptote of each. Then sketch the graph.

$$7) f(x) = \frac{x^2 - x}{-x^2 + 4x - 3}$$



$$8) f(x) = \frac{-2x^2 - 2x + 12}{x^2 - 3x}$$



Solve each equation. Round your answers to the nearest ten-thousandth.

9) $-8 \cdot 10^{n-2} = -6$

10) $8e^{b+8} - 9 = 89$

Solve each equation.

11) $\log(x+9) - \log 7 = 1$

12) $\log_8 2x^2 + \log_8 2 = 4$

Condense each expression to a single logarithm.

13) $5 \log_5 11 - 2 \log_5 2$

Expand each logarithm.

14) $\log\left(\frac{x}{y^2}\right)^5$