

SM3 HW #3-6 (Review)

Date _____ Period _____

Simplify each and state the excluded values.

1) $\frac{k^2 - 4k - 32}{k^2 + 10k + 24}$

2) $\frac{r^2 + 10r + 21}{r^2 + 14r + 49}$

3) $\frac{k^2 - 5k + 6}{k^2 - 6k + 9}$

4) $\frac{n^2 - 4n - 60}{n^2 + 8n + 12}$

Simplify each expression.

5) $\frac{p^2 + 8p - 20}{3p + 30} \cdot \frac{9p - 18}{-p^2 + 4p - 4}$

6) $\frac{7r + 49}{7r - 21} \cdot \frac{-r^2 + 6r - 9}{r^2 + 3r - 28}$

7) $\frac{v^2 - 15v + 56}{v^2 - 4v - 45} \cdot \frac{5v^2 + 25v}{5v^2 - 40v}$

8) $\frac{20m^2 - 28m^3}{8m - 24} \cdot \frac{m^2 + 7m - 30}{28m^3 - 20m^2}$

$$9) \frac{a-8}{a^2-12a+32} \div \frac{a^2-a-2}{a^2-3a-4}$$

$$10) \frac{-x^2+10x-24}{x^2-10x+24} \div \frac{x^2-2x-63}{x^2+2x-35}$$

$$11) \frac{9x^2-45x}{3x-18} \div \frac{9x^2-45x}{x+7}$$

$$12) \frac{a+8}{a^2+2a-8} \div \frac{a^2+11a+24}{4a^2+12a}$$

$$13) \frac{x+2}{3(x-2)} - \frac{6x}{2}$$

$$14) \frac{2n}{2} - \frac{5n}{15n(n-1)}$$

$$15) \frac{3}{2m} - \frac{5}{3m(m+3)}$$

$$16) \frac{3}{a-6} + \frac{3}{a+6}$$

$$17) \frac{3k}{k-4} - \frac{5k}{2(k+5)}$$

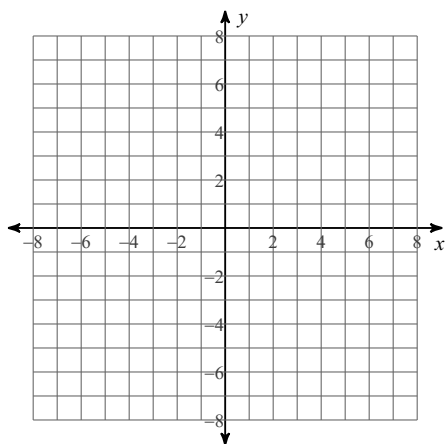
$$18) \frac{4}{2} + \frac{3a-3}{3a(a+3)(a+1)}$$

$$19) \frac{2}{3(x-3)(x-6)} + \frac{6}{3}$$

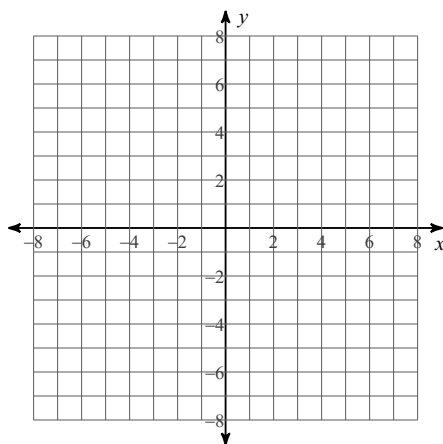
$$20) \frac{5x}{3x-1} - \frac{2}{x+6}$$

Graph each function.

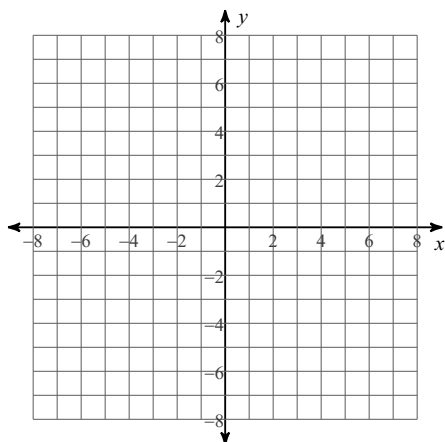
$$21) f(x) = \frac{2}{x-2} + 2$$



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



$$23) f(x) = -\frac{3}{x+2} - 1$$



$$24) f(x) = \frac{3}{x-2} - 1$$

