

Assignment

Date _____ Period _____

Simplify each and state the excluded values.

1) $\frac{2m^2 - 8m - 10}{3m^2 + 15m - 150}$

2) $\frac{b^2 - 4b - 32}{b^3 - 17b^2 + 72b}$

3) $\frac{n^2 + 20n + 100}{7n^3 + 56n^2 - 140n}$

4) $\frac{2x^3 - 2x^2 - 144x}{3x^2 + 12x - 96}$

5) $\frac{2n^2 + 4n - 16}{n^2 + 8n + 16}$

Simplify each expression.

6) $\frac{3}{a-4} + \frac{3}{a-6}$

7) $\frac{3}{x-8} + \frac{4}{x-2}$

8) $\frac{5b}{b-5} + \frac{6b}{b+4}$

9) $\frac{6}{x-4} - \frac{5}{4x-28}$

10) $\frac{3}{k+5} - \frac{7k}{k-7}$

11) $\frac{4-7x}{72x^2} \cdot \frac{3x^2+24x+45}{21x^2+51x-36}$

12) $\frac{15p+24}{50p+80} \cdot \frac{20p+60}{16p+48}$

13) $\frac{5r^2-25r-70}{50r^2-90r} \cdot \frac{90r-50r^2}{15r+30}$

14) $\frac{4x-4}{2x^2-16x+14} \div \frac{2x+12}{x+10}$

15) $\frac{7x+10}{10x^2-10x} \cdot \frac{5x^2+20x-25}{42x^2+60x}$

Solve each equation. Remember to check for extraneous solutions.

16) $\frac{1}{2r} = r + \frac{7r-21}{2r}$

17) $\frac{v-2}{v-8} = \frac{v-6}{v^2-8v} + 1$

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

$$19) \frac{1}{b^2+2b} + \frac{b-8}{b} = \frac{b-1}{b+2}$$

$$20) \frac{1}{x+3} = \frac{x^2+6x+8}{x^2+3x} - 1$$

Answers to Assignment (ID: 1)

1) $\frac{2(m+1)}{3(m+10)}; \{5, -10\}$

2) $\frac{b+4}{b(b-9)}; \{0, 9, 8\}$

3) $\frac{n+10}{7n(n-2)}; \{0, 2, -10\}$

4) $\frac{2x(x-9)}{3(x-4)}; \{4, -8\}$

5) $\frac{2(n-2)}{n+4}; \{-4\}$

6) $\frac{6a-30}{(a-6)(a-4)}$

7) $\frac{7x-38}{(x-8)(x-2)}$

8) $\frac{11b^2-10b}{(b-5)(b+4)}$

9) $\frac{19x-148}{4(x-7)(x-4)}$

10) $\frac{-32k-21-7k^2}{(k-7)(k+5)}$

11) $\frac{-x-5}{72x^2}$

12) $\frac{3}{8}$

13) $\frac{-r+7}{3}$

14) $\frac{x+10}{(x-7)(x+6)}$

15) $\frac{x+5}{12x^2}$

16) $\left\{2, -\frac{11}{2}\right\}$

17) $\left\{-\frac{6}{5}\right\}$

18) $\left\{2, -\frac{1}{2}\right\}$

19) $\{-3\}$

20) $\{-4\}$