Algebra 2
Name_____ ID: 1

Assignment

Date_____ Period____

Simplify each and state the excluded values.

1) $\dfrac{3p^3 + 36p^2 + 60p}{p^2 + 12p + 20}$

2) $\dfrac{20r^3 - 20r}{20r^3 + 30r^2 + 10r}$

Simplify each expression.

3) $\dfrac{4p}{3p} + \dfrac{2}{4p^2 + 32p}$

4) $\dfrac{4n}{4n - 16} + \dfrac{8}{2}$

5) $\dfrac{7}{4} - \dfrac{2k + 2}{4k^2 + 20k}$

6) $\dfrac{2}{x - 6} - \dfrac{3}{x + 1}$

Simplify each and state the excluded values.

7) $\dfrac{2v - 2}{2v + 8} \cdot \dfrac{4v - 32}{v - 1}$

8) $\dfrac{56k - 40}{8k^3 + 56k^2} \cdot \dfrac{8k^2}{42k^3 - 30k^2}$

Simplify each expression.

9) $\dfrac{24 + 5x - x^2}{x^2 - 15x + 56} \cdot \dfrac{4x - 28}{x + 3}$

10) $\dfrac{8r + 24}{r^2 + 11r + 24} \div \dfrac{8}{6r^3 + 48r^2}$

Solve each equation. Remember to check for extraneous solutions.

11) $\dfrac{6}{r} = 1 - \dfrac{1}{r}$

12) $\dfrac{4}{r - 2} + \dfrac{7}{r^2 - 2r} = \dfrac{8}{r^2 - 2r}$

13) $\dfrac{8v - 2}{v^2 - 8v + 12} = \dfrac{1}{v - 6} + \dfrac{8}{v^2 - 8v + 12}$

14) $\dfrac{1}{x^2 - 6x + 5} + \dfrac{1}{x - 1} = \dfrac{2}{x^2 - 6x + 5}$

Answers to Assignment (ID: 1)

1) $3p$; $\{-10, -2\}$

2) $\dfrac{2(r-1)}{2r+1}$; $\left\{0, -1, -\dfrac{1}{2}\right\}$

3) $\dfrac{8p^2 + 64p + 3}{6p(p+8)}$

4) $\dfrac{5n-16}{n-4}$

5) $\dfrac{7k^2 + 33k - 2}{4k(k+5)}$

6) $\dfrac{-x+20}{(x-6)(x+1)}$

7) $\dfrac{4(v-8)}{v+4}$; $\{-4, 1\}$

8) $\dfrac{4}{3k^2(k+7)}$; $\left\{0, -7, \dfrac{5}{7}\right\}$

9) -4

10) $6r^2$

11) $\{7\}$

12) $\left\{\dfrac{1}{4}\right\}$

13) $\left\{\dfrac{8}{7}\right\}$

14) $\{6\}$