Algebra 2   Name_____

Assignment   Date_____ Period____

Solve each equation. Remember to check for extraneous solutions.

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

2) $\dfrac{1}{b^2} - \dfrac{b-6}{5b^2} = \dfrac{1}{5b^2}$

3) $\dfrac{a+5}{a^2} + \dfrac{1}{a^2} = \dfrac{4a+20}{5a^2}$

4) $\dfrac{3}{v^2} = \dfrac{1}{2v} + \dfrac{5}{2v^2}$

5) $\dfrac{1}{x^2} - \dfrac{1}{x} = \dfrac{4}{x^2}$

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

7) $3 = \dfrac{x-6}{x-4} + \dfrac{8x+32}{x-4}$

8) $\dfrac{k+6}{k^2 - 8k + 15} = \dfrac{1}{k-3} + \dfrac{5k+5}{k^2 - 8k + 15}$

9) $\dfrac{8}{v-4} = \dfrac{v+6}{v^2-4v} + \dfrac{1}{v^2-4v}$

10) $\dfrac{1}{7} = \dfrac{n-7}{7n} - 1$

11) $\dfrac{6p-8}{5p^2} = \dfrac{p^2+p-12}{5p^2} + 1$

12) $\dfrac{3}{4x} - \dfrac{x+4}{8} = \dfrac{1}{8}$

Simplify each expression.

13) $\dfrac{6m+4}{m-1} + \dfrac{m+1}{3}$

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

15) $\dfrac{6}{2r-2} - \dfrac{3r}{r-5}$

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

17) $\dfrac{9b^2}{10b} \div \dfrac{b+3}{10b^2 + 30b}$

18) $\dfrac{5n-5}{4n} \div \dfrac{5n-5}{7}$

19) $\dfrac{6v-24}{9} \cdot \dfrac{1}{4-v}$

20) $\dfrac{9x^2}{9x^3 + 72x^2} \cdot \dfrac{x^2 + 14x + 48}{4}$

Answers to Assignment (ID: 1)

1) $\{15\}$

2) $\{10\}$

3) $\{-10\}$

4) $\{1\}$

5) $\{-3\}$

6) $\{10\}$

7) $\left\{-\dfrac{19}{3}\right\}$

8) $\left\{\dfrac{6}{5}\right\}$

9) $\{1\}$

10) $\{-1\}$

11) $\left\{\dfrac{4}{3}, -\dfrac{1}{2}\right\}$

12) $\{1, -6\}$

13) $\dfrac{18m + 11 + m^2}{3(m-1)}$

14) $\dfrac{8n - 16}{(n-3)(n+1)}$

15) $\dfrac{6r - 15 - 3r^2}{(r-5)(r-1)}$

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

17) $9b^2$

18) $\dfrac{7}{4n}$

19) $-\dfrac{2}{3}$

20) $\dfrac{x+6}{4}$