Math 2   Name_____

PRACTICE Test 5

Simplify each and state the excluded values.

1) $3 \div \dfrac{4x^2}{10}$

2) $\dfrac{1}{2x-1} \div \dfrac{x+7}{18x-9}$

3) $\dfrac{8n^3}{8n^6}$

4) $\dfrac{2n^2 - 10n + 12}{5n^2 - 9n - 18}$

Simplify each expression.

5) $\dfrac{\frac{4}{m}}{\frac{m}{4}}$

6) $\dfrac{\frac{9}{2x} - \frac{x}{2}}{2}$

7) $\dfrac{\frac{x^2}{12} - \frac{x^2}{9}}{\frac{4}{3} - \frac{1}{5}}$

8) $\dfrac{\frac{n-3}{m-4} - \frac{25}{n-3}}{\frac{m-4}{n-3}}$

9) $\dfrac{2a + 2b}{10b} + \dfrac{a - 2b}{10b}$

10) $\dfrac{5}{2x} + \dfrac{2}{2x(x - 6)}$

Simplify.

11) $(7i) + (7i)$

12) $(-6 + 7i) - (4 + 7i) + (5i)$

13) $(-7 - 8i)^2$

14) $(-5i)(5i) + 6$

15) $(-4 - 4i)(-3 + 2i) + (-6 - 4i) - (-2 - 8i)$

16) $\dfrac{7 - 10i}{-i}$

Solve each equation. Remember to check for extraneous solutions.

17) $\dfrac{v - 2}{v^2} = \dfrac{v - 2}{v} + \dfrac{6}{v}$

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

Name_____

PRACTICE Test 5

Simplify each and state the excluded values.

1) $3 \div \dfrac{4x^2}{10}$

$\dfrac{15}{2x^2}; \{0\}$

2) $\dfrac{1}{2x-1} \div \dfrac{x+7}{18x-9}$

$\dfrac{9}{x+7}; \left\{\dfrac{1}{2}, -7\right\}$

3) $\dfrac{8n^3}{8n^6}$

$\dfrac{1}{n^3}; \{0\}$

4) $\dfrac{2n^2 - 10n + 12}{5n^2 - 9n - 18}$

$\dfrac{2(n-2)}{5n+6}; \left\{3, -\dfrac{6}{5}\right\}$

Simplify each expression.

5) $\dfrac{\dfrac{4}{m}}{\dfrac{m}{4}}$

$\dfrac{16}{m^2}$

6) $\dfrac{\dfrac{9}{2x} - \dfrac{x}{2}}{2}$

$\dfrac{9 - x^2}{4x}$

7) $\dfrac{\dfrac{x^2}{12} - \dfrac{x^2}{9}}{\dfrac{4}{3} - \dfrac{1}{5}}$

$-\dfrac{5x^2}{204}$

8) $\dfrac{\dfrac{n-3}{m-4} - \dfrac{25}{n-3}}{\dfrac{m-4}{n-3}}$

$\dfrac{n^2 - 6n + 109 - 25m}{m^2 - 8m + 16}$

9) $\dfrac{2a + 2b}{10b} + \dfrac{a - 2b}{10b}$

$\dfrac{3a}{10b}$

10) $\dfrac{5}{2x} + \dfrac{2}{2x(x - 6)}$

$\dfrac{5x - 28}{2x(x - 6)}$

Simplify.

11) $(7i) + (7i)$

$14i$

12) $(-6 + 7i) - (4 + 7i) + (5i)$

$-10 + 5i$

13) $(-7 - 8i)^2$

$-15 + 112i$

14) $(-5i)(5i) + 6$

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15) $(-4 - 4i)(-3 + 2i) + (-6 - 4i) - (-2 - 8i)$

$16 + 8i$

16) $\dfrac{7 - 10i}{-i}$

$7i + 10$

Solve each equation. Remember to check for extraneous solutions.

17) $\dfrac{v - 2}{v^2} = \dfrac{v - 2}{v} + \dfrac{6}{v}$

$\{-2, -1\}$

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

$\{5, 1\}$