# Review for Quiz Tomorrow

Date_____

**Simplify each and state the excluded values.**

1) $\frac{v + 10}{v^2 + v - 90}$

2) $\frac{x - 7}{x^2 - x - 42}$

3) $\frac{a^2 + 10a + 9}{8a^2 + 72a}$

4) $\frac{p^2 - 8p + 16}{20 - 5p}$

5) $\frac{35n^3 + 60n^2 + 25n}{25n^2 + 15n}$

6) $\frac{7p^2 - 26p - 45}{7p + 7}$

**Simplify each expression.**

7) $\frac{9x + 45}{2x^2 - 14x} \cdot \frac{1}{x + 5}$

8) $\frac{8}{10b^2 - 6b} \cdot \frac{20b^2 - 12b}{4b}$

9) $\frac{r^2 + 4r - 32}{r + 1} \cdot \frac{r + 1}{r^2 + 15r + 56}$

10) $\frac{9b^2 - 9b}{9b} \cdot \frac{1}{b - 3}$

11) $\frac{x + 1}{4x + 4} \div \frac{1}{3x}$

12) $\frac{x^2 - 5x - 24}{9x^2} \div \frac{x - 8}{9x^2}$

13) $\frac{3}{x + 8} \div \frac{64 - 8x}{x^2 - 64}$

14) $\frac{n + 2}{n^2 + 8n - 9} \div \frac{2n}{n + 9}$

15) $\frac{2n}{n - 6} + \frac{7}{8}$

16) $\frac{7}{n + 1} + \frac{3}{n - 2}$

17) $\dfrac{8x+8}{21x^2+3x} - \dfrac{x+4}{2x}$

18) $\dfrac{2}{7r} + \dfrac{r-2}{7r+5}$

19) $\dfrac{5}{4} - \dfrac{n+8}{n-2}$

20) $\dfrac{4b-8}{b+6} - \dfrac{3b}{4}$

21) $\dfrac{5k}{k-3} + \dfrac{k-6}{k-1}$

22) $\dfrac{7n+1}{n^2-49} + 7n$

23) $\dfrac{20}{\dfrac{16}{x^2} - \dfrac{16}{25}}$

24) $\dfrac{\dfrac{3}{2}}{\dfrac{4}{3x} - \dfrac{x}{2}}$

25) $\dfrac{\dfrac{4}{x}}{\dfrac{4}{x} - \dfrac{16}{x^2}}$

26) $\dfrac{\dfrac{25}{a+5}}{\dfrac{1}{a} + \dfrac{a+5}{5}}$

27) $\dfrac{\dfrac{16}{x^2} - \dfrac{x}{4}}{x}$

28) $\dfrac{\dfrac{u}{16} - \dfrac{5}{16}}{\dfrac{4}{u}}$

29) $\dfrac{x-3}{\dfrac{4}{x-3} - \dfrac{x-3}{x}}$

30) $\dfrac{\dfrac{4}{x^2} + \dfrac{1}{x}}{4}$

  

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**Simplify each and state the excluded values.**

1) $\dfrac{v+10}{v^2+v-90}$

$\dfrac{1}{v-9}$; $\{9, -10\}$

2) $\dfrac{x-7}{x^2-x-42}$

$\dfrac{1}{x+6}$; $\{7, -6\}$

3) $\dfrac{a^2+10a+9}{8a^2+72a}$

$\dfrac{a+1}{8a}$; $\{0, -9\}$

4) $\dfrac{p^2-8p+16}{20-5p}$

$\dfrac{-p+4}{5}$; $\{4\}$

5) $\dfrac{35n^3+60n^2+25n}{25n^2+15n}$

$\dfrac{(n+1)(7n+5)}{5n+3}$; $\left\{0, -\dfrac{3}{5}\right\}$

6) $\dfrac{7p^2-26p-45}{7p+7}$

$\dfrac{(p-5)(7p+9)}{7(p+1)}$; $\{-1\}$

**Simplify each expression.**

7) $\dfrac{9x+45}{2x^2-14x} \cdot \dfrac{1}{x+5}$

$\dfrac{9}{2x(x-7)}$

8) $\dfrac{8}{10b^2-6b} \cdot \dfrac{20b^2-12b}{4b}$

$\dfrac{4}{b}$

9) $\dfrac{r^2+4r-32}{r+1}\cdot\dfrac{r+1}{r^2+15r+56}$

$\dfrac{r-4}{r+7}$

10) $\dfrac{9b^2-9b}{9b}\cdot\dfrac{1}{b-3}$

$\dfrac{b-1}{b-3}$

11) $\dfrac{x+1}{4x+4}\div\dfrac{1}{3x}$

$\dfrac{3x}{4}$

12) $\dfrac{x^2-5x-24}{9x^2}\div\dfrac{x-8}{9x^2}$

$x+3$

13) $\dfrac{3}{x+8}\div\dfrac{64-8x}{x^2-64}$

$-\dfrac{3}{8}$

14) $\dfrac{n+2}{n^2+8n-9}\div\dfrac{2n}{n+9}$

$\dfrac{n+2}{2n(n-1)}$

15) $\dfrac{2n}{n-6}+\dfrac{7}{8}$

$\dfrac{23n-42}{8(n-6)}$

16) $\dfrac{7}{n+1}+\dfrac{3}{n-2}$

$\dfrac{10n-11}{(n-2)(n+1)}$

17) $\dfrac{8x+8}{21x^2+3x} - \dfrac{x+4}{2x}$

$\dfrac{-71x+4-21x^2}{6x(7x+1)}$

18) $\dfrac{2}{7r} + \dfrac{r-2}{7r+5}$

$\dfrac{10+7r^2}{7r(7r+5)}$

19) $\dfrac{5}{4} - \dfrac{n+8}{n-2}$

$\dfrac{n-42}{4(n-2)}$

20) $\dfrac{4b-8}{b+6} - \dfrac{3b}{4}$

$\dfrac{-2b-32-3b^2}{4(b+6)}$

21) $\dfrac{5k}{k-3} + \dfrac{k-6}{k-1}$

$\dfrac{6k^2-14k+18}{(k-3)(k-1)}$

22) $\dfrac{7n+1}{n^2-49} + 7n$

$\dfrac{7n^3-336n+1}{(n-7)(n+7)}$

23) $\dfrac{20}{\dfrac{16}{x^2} - \dfrac{16}{25}}$

$\dfrac{125x^2}{100-4x^2}$

24) $\dfrac{\dfrac{3}{2}}{\dfrac{4}{3x} - \dfrac{x}{2}}$

$\dfrac{9x}{8-3x^2}$

25) $\dfrac{\dfrac{4}{x}}{\dfrac{4}{x} - \dfrac{16}{x^2}}$

$\dfrac{x}{x-4}$

26) $\dfrac{\dfrac{25}{a+5}}{\dfrac{1}{a} + \dfrac{a+5}{5}}$

$\dfrac{125a}{30a + a^3 + 10a^2 + 25}$

27) $\dfrac{\dfrac{16}{x^2} - \dfrac{x}{4}}{x}$

$\dfrac{64 - x^3}{4x^3}$

28) $\dfrac{\dfrac{u}{16} - \dfrac{5}{16}}{\dfrac{4}{u}}$

$\dfrac{u^2 - 5u}{64}$

29) $\dfrac{x-3}{\dfrac{4}{x-3} - \dfrac{x-3}{x}}$

$\dfrac{x^3 - 6x^2 + 9x}{-x^2 + 10x - 9}$

30) $\dfrac{\dfrac{4}{x^2} + \dfrac{1}{x}}{4}$

$\dfrac{4 + x}{4x^2}$