

## More Review - Rationals

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**Simplify each expression.**

1)  $\frac{3x}{6x} + \frac{3y}{6}$

2)  $\frac{2m}{4n} + \frac{m+2n}{6}$

3)  $\frac{3}{3v} + \frac{v-1}{v-5}$

4)  $\frac{4x}{2} - \frac{4}{2x-10}$

5)  $\frac{4}{x+3} + \frac{3}{x-3}$

6)  $\frac{3a}{18a^2+36a} + \frac{2}{a+2}$

7)  $\frac{\frac{4x^2}{3}}{\frac{x}{9}}$

8)  $\frac{\frac{a^2}{b}}{\frac{a^4}{b^3}}$

9)  $\frac{\frac{6a^2-6}{8a^2-8a}}{\frac{3a-3}{4a^2+4a}}$

10)  $\frac{\frac{x^2-9}{a}}{5}$

11)  $\frac{p+1}{7} \div \frac{p+3}{p^2+11p+24}$

12)  $\frac{6}{x+6} \div \frac{8x^2+64x}{8x^2+48x}$

13)  $\frac{n^2-10n+24}{n^2-7n+6} \div \frac{1}{n^2-9n+8}$

14)  $\frac{40b^3}{b+7} \div \frac{b^2+9b+20}{b^2+11b+28}$

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

15)  $\frac{1}{r+9} \cdot \frac{40-8r}{r-5}$

16)  $\frac{1}{x-2} \cdot \frac{x^2-11x+18}{x^2-3x-10}$

17)  $\frac{45n^2+54n}{8n+32} \cdot \frac{10n^2+40n}{50n^2+60n}$

18)  $\frac{a^2-2a-35}{5} \cdot \frac{5a-15}{a^2-2a-35}$

$$19) \frac{12v}{21v^2 - 3v}$$

$$20) \frac{x^2 - 6x + 8}{x^2 + 5x - 36}$$

$$21) \frac{2x^3 + 6x^2 + 4x}{x^2 - 5x - 14}$$

**Simplify each expression.**

$$22) \frac{1}{n+7} \cdot \frac{n^2 + 14n + 49}{5n}$$

## Answers to More Review - Rationals (ID: 1)

$$1) \frac{1+y}{2}$$

$$2) \frac{3m + nm + 2n^2}{6n}$$

$$3) \frac{-5 + v^2}{v(v-5)}$$

$$4) \frac{2x^2 - 10x - 2}{x-5}$$

$$5) \frac{7x-3}{(x+3)(x-3)}$$

$$6) \frac{13}{6(a+2)}$$

$$7) 12x$$

$$8) \frac{a^2}{b^2}$$

$$9) \frac{(a+1)(a+1)}{a-1}$$

$$10) \frac{((5(x-3)))/(a)}{1}$$

$$11) \frac{(p+1)(p+8)}{7}$$

$$12) \frac{6}{x+8}$$

$$13) (n-4)(n-8)$$

$$14) \frac{40b^3}{b+5}$$

$$15) -\frac{8}{r+9}; \{-9, 5\}$$

$$16) \frac{x-9}{(x+2)(x-5)}; \{2, -2, 5\}$$

$$17) \frac{9n}{8}; \left\{-4, 0, -\frac{6}{5}\right\}$$

$$18) a-3; \{-5, 7\}$$

$$19) \frac{4}{7v-1}; \left\{0, \frac{1}{7}\right\}$$

$$20) \frac{x-2}{x+9}; \{-9, 4\}$$

$$21) \frac{2x(x+1)}{x-7}; \{-2, 7\}$$

$$22) \frac{n+7}{5n}$$