Math 2 Name_____

Math 2 Unit 5.6 Complex Fractions with Rational Expressions Example

Simplify each expression.

1) $\dfrac{\frac{4}{x}}{\frac{16}{9}}$

2) $\dfrac{\frac{3}{a}}{\frac{2}{a}}$

3) $\dfrac{\frac{x}{4}}{\frac{x}{y^2}}$

4) $\dfrac{\frac{a^2}{b}}{\frac{1}{5}}$

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

6) $\dfrac{\frac{16}{x}}{\frac{2}{x} + \frac{16}{x^2}}$

7) $\dfrac{25}{\frac{x}{9} + \frac{5}{x}}$

8) $\dfrac{\frac{4}{x} + \frac{16}{y}}{16}$

9) $\dfrac{\frac{4}{y} - \frac{y}{x}}{y}$

10) $\dfrac{\frac{4}{u^2} + \frac{u}{v}}{u}$

11) $\dfrac{\frac{4}{9}+\frac{4}{3}}{\frac{16}{x^2}+\frac{9}{5x}}$

12) $\dfrac{\frac{9}{16}-\frac{16}{3}}{\frac{16}{u^2}+\frac{20}{u}}$

13) $\dfrac{\frac{1}{2}-\frac{9}{x^2}}{\frac{4}{25}+\frac{3}{x}}$

14) $\dfrac{\frac{25}{y}+\frac{y}{5}}{\frac{25}{y^2}-\frac{y^2}{x}}$

15) $\dfrac{\frac{1}{y}+\frac{2}{x}}{\frac{y^2}{2}-\frac{x}{2}}$

16) $\dfrac{\frac{y}{4}+\frac{x^2}{4}}{\frac{y}{x^2}+\frac{y}{16}}$

17) $\dfrac{\frac{25}{y-3}+\frac{x-1}{y-3}}{\frac{y-3}{x-1}}$

18) $\dfrac{\frac{x+5}{4y+16}+\frac{x+5}{y+4}}{4}$

19) $\dfrac{\frac{x-2}{y+3}}{\frac{3}{y+3}+\frac{x-2}{3}}$

20) $\dfrac{\frac{u-3}{v-4}-\frac{u-3}{25}}{\frac{u-3}{v-4}-\frac{3}{5}}$

21) $\dfrac{\frac{16}{n-2}-\frac{n-5}{n-2}}{\frac{4}{n-2}+\frac{m-5}{n-5}}$

22) $\dfrac{\frac{2n+1}{4}-\frac{1}{4}}{\frac{2n+1}{4m-8}+\frac{n+2}{m-2}}$

Math 2 Name_____

Math 2 Unit 5.6 Complex Fractions with Rational Expressions Example

Simplify each expression.

1) $\dfrac{\frac{4}{x}}{\frac{16}{9}}$

$\dfrac{9}{4x}$

2) $\dfrac{\frac{3}{a}}{\frac{2}{a}}$

$\dfrac{3}{2}$

3) $\dfrac{\frac{x}{4}}{\frac{x}{y^2}}$

$\dfrac{y^2}{4}$

4) $\dfrac{\frac{a^2}{b}}{\frac{1}{5}}$

$\dfrac{5a^2}{b}$

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

$\dfrac{108}{3 - x^2}$

6) $\dfrac{\frac{16}{x}}{\frac{2}{x} + \frac{16}{x^2}}$

$\dfrac{8x}{x + 8}$

7) $\dfrac{25}{\frac{x}{9} + \frac{5}{x}}$

$\dfrac{225x}{x^2 + 45}$

8) $\dfrac{\frac{4}{x} + \frac{16}{y}}{16}$

$\dfrac{y + 4x}{4xy}$

9) $\dfrac{\frac{4}{y} - \frac{y}{x}}{y}$

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

10) $\dfrac{\frac{4}{u^2} + \frac{u}{v}}{u}$

$\dfrac{4v + u^3}{u^3v}$

11) $\dfrac{\frac{4}{9}+\frac{4}{3}}{\frac{16}{x^2}+\frac{9}{5x}}$

$\dfrac{80x^2}{720+81x}$

12) $\dfrac{\frac{9}{16}-\frac{16}{3}}{\frac{16}{u^2}+\frac{20}{u}}$

$-\dfrac{229u^2}{768+960u}$

13) $\dfrac{\frac{1}{2}-\frac{9}{x^2}}{\frac{4}{25}+\frac{3}{x}}$

$\dfrac{25x^2-450}{8x^2+150x}$

14) $\dfrac{\frac{25}{y}+\frac{y}{5}}{\frac{25}{y^2}-\frac{y^2}{x}}$

$\dfrac{125yx+y^3x}{125x-5y^4}$

15) $\dfrac{\frac{1}{y}+\frac{2}{x}}{\frac{y^2}{2}-\frac{x}{2}}$

$\dfrac{2x+4y}{y^3x-yx^2}$

16) $\dfrac{\frac{y}{4}+\frac{x^2}{4}}{\frac{y}{x^2}+\frac{y}{16}}$

$\dfrac{4x^2y+4x^4}{16y+yx^2}$

17) $\dfrac{\frac{25}{y-3}+\frac{x-1}{y-3}}{\frac{y-3}{x-1}}$

$\dfrac{23x-24+x^2}{y^2-6y+9}$

18) $\dfrac{\frac{x+5}{4y+16}+\frac{x+5}{y+4}}{4}$

$\dfrac{5x+25}{16y+64}$

19) $\dfrac{\frac{x-2}{y+3}}{\frac{3}{y+3}+\frac{x-2}{3}}$

$\dfrac{3x-6}{3+xy+3x-2y}$

20) $\dfrac{\frac{u-3}{v-4}-\frac{u-3}{25}}{\frac{u-3}{v-4}-\frac{3}{5}}$

$\dfrac{29u-87-vu+3v}{25u-15-15v}$

21) $\dfrac{\frac{16}{n-2}-\frac{n-5}{n-2}}{\frac{4}{n-2}+\frac{m-5}{n-5}}$

$\dfrac{26n-105-n^2}{-n-10+mn-2m}$

22) $\dfrac{\frac{2n+1}{4}-\frac{1}{4}}{\frac{2n+1}{4m-8}+\frac{n+2}{m-2}}$

$\dfrac{2nm-4n}{6n+9}$