Intermediate Algebra Skill

Simplifying Complex Fractions

Simplify each complex fraction.

1) $\dfrac{\dfrac{x}{25}}{\dfrac{4}{x^2}}$

2) $\dfrac{\dfrac{4}{u^2}}{\dfrac{4}{u}}$

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

4) $\dfrac{\dfrac{n-4}{m^2}}{\dfrac{m}{n-4}}$

5) $\dfrac{\dfrac{x-5}{2x-5}}{\dfrac{x-5}{2x-5} - \dfrac{x+2}{x-5}}$

6) $\dfrac{x-1}{\dfrac{x-1}{9} + \dfrac{9}{x-1}}$

7) $\dfrac{\dfrac{a^2}{b+3} + \dfrac{2}{a}}{a^2}$

8) $\dfrac{\dfrac{u^2}{2v}}{\dfrac{v^2}{u^2} + \dfrac{v}{2}}$

9) $\dfrac{\dfrac{x^2}{9} - \dfrac{25}{4}}{\dfrac{4}{x} - \dfrac{x}{5}}$

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

Answers to Simplifying Complex Fractions

1) $\dfrac{x^3}{100}$

2) $\dfrac{1}{u}$

3) $\dfrac{yx + 4y}{4}$

4) $\dfrac{n^2 - 8n + 16}{m^3}$

5) $\dfrac{x^2 - 10x + 25}{-x^2 - 9x + 35}$

6) $\dfrac{9x^2 - 18x + 9}{x^2 - 2x + 82}$

7) $\dfrac{a^3 + 2b + 6}{a^3 b + 3a^3}$

8) $\dfrac{u^4}{2v^3 + v^2 u^2}$

9) $\dfrac{20x^3 - 1125x}{720 - 36x^2}$

10) $\dfrac{4x^2 + 10x + 6}{3x^3 - 12x^2}$