

[6-1]c Dividing Monomials

① $\frac{x}{x} = 1$

② $\frac{28}{35} = \frac{\cancel{7} \cdot 4}{\cancel{7} \cdot 5} = \frac{4}{5}$

③ $\frac{-\cancel{15}^5 xy}{\cancel{21}_7 x} = \frac{-5y}{7}$

④ $\frac{x^8}{x^3} = x^5$

(Handwritten note: $x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x$ over $x \cdot x \cdot x$)

$\frac{x^m}{x^n} = x^{m-n}$

⑤ $\frac{x^2}{x^2} = 1$

⑥ $\frac{x^3}{x^8} = \frac{1}{x^5}$

⑦ $\frac{\cancel{25}^5 \cancel{m}^4 \cancel{n}^1}{-\cancel{15}^3 \cancel{m}^1 \cancel{n}^6} = \frac{-5m^3}{3n^5}$

⑧ $\frac{\cancel{12}^3 \cancel{x}^5 \cancel{y}^4 \cancel{z}^1}{\cancel{4}^1 \cancel{x}^2 \cancel{y}^6 \cancel{z}^2} = \frac{3x^3}{y^2 z}$

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Simplify. Assume that no denominator equals zero.

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|------------------------------|---|-------------------------------|-------------------------------|-------------------------------|---------------------------|
| 1. $\frac{25}{30}$ | 2. $\frac{48}{72}$ | 3. $\frac{54}{72}$ | 4. $\frac{10^3}{10^6}$ | 5. $\frac{10^8}{10^5}$ | 6. $\frac{10a}{2a}$ |
| 7. $\frac{12m}{4m}$ | 8. $\frac{15 \cdot 10^3}{5 \cdot 10^4}$ | 9. $\frac{6x^4}{9x^2}$ | 10. $\frac{4n^6}{20n^4}$ | 11. $\frac{2x^5}{16x^4}$ | 12. $\frac{12y^3}{3xy^2}$ |
| 13. $\frac{4a^2b}{16ab^2}$ | 14. $\frac{-6x^2y^3}{9xy^2}$ | 15. $\frac{-8a^2b}{-20ab}$ | 16. $\frac{-32cd^3}{-24bd^2}$ | 17. $\frac{-21bc^3}{-14cd^2}$ | |
| 18. $\frac{30xz^3}{-35yz^2}$ | 19. $\frac{x^2yz^3}{x^3y^3z^3}$ | 20. $\frac{a^2b^4c}{a^2bc^3}$ | 21. $\frac{35a^2b^3c}{25abc}$ | 22. $\frac{26x^2yz}{52xyz}$ | |