



# Simplifying Algebraic Expressions

Name \_\_\_\_\_

Score \_\_\_\_\_

SAE:20

Simplify each expression.

$$1) \quad \frac{36 - y^2}{2y^2 + 16y + 24} \times \frac{2y^2 - 8}{6 - y}$$

$$2) \quad \frac{u^3v^2w^7}{t^6} \times \frac{t^4}{u^8v^3w^2}$$

$$3) \quad \frac{2a^5b^6}{8b^7a^2} \div \frac{6a^2b^6}{16b^8a^9}$$

$$4) \quad \frac{k + 4}{2k + 3} \div \frac{(k + 4)^3}{2k^2 + 11k + 12}$$

$$5) \quad \frac{4}{5g^6h^8} \div \frac{2}{25gh^2}$$

$$6) \quad \frac{d^2 - 1}{3d + 4} \times \frac{6d + 8}{d^2 + 2d - 3}$$



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## Answer key

SAE:20

Simplify each expression.

$$1) \quad \frac{36 - y^2}{2y^2 + 16y + 24} \times \frac{2y^2 - 8}{6 - y}$$

$$y - 2$$

$$2) \quad \frac{u^3 v^2 w^7}{t^6} \times \frac{t^4}{u^8 v^3 w^2}$$

$$\frac{w^5}{t^2 u^5 v}$$

$$3) \quad \frac{2a^5 b^6}{8b^7 a^2} \div \frac{6a^2 b^6}{16b^8 a^9}$$

$$\frac{2}{3} a^{10} b$$

$$4) \quad \frac{k + 4}{2k + 3} \div \frac{(k + 4)^3}{2k^2 + 11k + 12}$$

$$\frac{1}{k + 4}$$

$$5) \quad \frac{4}{5g^6 h^8} \div \frac{2}{25gh^2}$$

$$\frac{10}{g^5 h^6}$$

$$6) \quad \frac{d^2 - 1}{3d + 4} \times \frac{6d + 8}{d^2 + 2d - 3}$$

$$\frac{2d + 2}{d + 3}$$