

Simplify: Algebraic Identities

Simplify each expression.

1) $(p^3q^2 - pq^3)^2 - (p^3q^2 + pq^3)^2$

2) $\frac{r^3 + s^3}{r^2 - s^2} \times \frac{r - s}{r^2 + s^2 - rs}$

3) $(t^2 + u^2 + v)^2 - (t^2 + u^2 - v)^2$

$\times \frac{25k^2 - 1}{5k + 2}$

5) $(g + h)^3 - (g + h)(g^2 + 2gh + h^2) - 8b^2$

$+ 2b)^2 - 8b^2$

7) $\frac{(w^2 + x^2)^3 - (w^3 + x^3)^2}{3w^2 + 3x^2 - 2wx}$

8) $\left(c + \frac{1}{c}\right)^2 + \left(c - \frac{1}{c}\right)^2 - \frac{2}{c^2}$

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