

**Simplify: Algebraic Identities**

Simplify each expression.

1) 
$$\frac{g^3 - h^3}{(g^2 + h^2 + gh)(g^2 - h^2)}$$

2) 
$$\frac{(y^2 - z^2)^2 + (y^2 + z^2)^2}{2(y^4 + z^4)}$$

3) 
$$(2r + s)^3 - (2r - s)^3$$

$$\frac{-(2a - 3b)^2}{-1}$$

5) 
$$\frac{p^3 + 11^3}{p^2 - 121} \times \frac{p^2 - 1}{p^2 - 1}$$

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

7) 
$$\frac{(m^2n - mn^2)^2}{(m - n)^2}$$

8) 
$$(4x + 1)^3 - (4x - 1)^3 - 2$$

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