

Name : _____

Factors: Algebraic Identities

Sheet 3

Factorize each expression using algebraic identities.

1) $(g + 2)^2 - 6h^3(g + 2) + 9h^6$

2) $p^8 + 7p^4q^3 + 12q^6$

3) $4m^8 - \frac{36}{n^6}$

$^5 + 121$

5) $49a^4 - 64b^6$

$+ 56$

7) $bc^8 + \frac{6bc^4}{d^4} +$

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9) $(3s + t)^2 - (2s - t)^2$

10) $4x^4 + \frac{9}{x^4} - 12$

Factors: Algebraic Identities

Factorize each expression using algebraic identities.

1) $(g + 2)^2 - 6h^3(g + 2) + 9h^6$

$(g - 3h^3 + 2)^2$

2) $p^8 + 7p^4q^3 + 12q^6$

$(p^4 + 3q^3)(p^4 + 4q^3)$

3) $4m^8 - \frac{36}{n^6}$

$4\left(m^4 + \frac{3}{n^3}\right)\left(m^4 - \frac{3}{n^3}\right)$

$^5 + 121$

5) $49a^4 - 64b^6$

$(7a^2 + 8b^3)(7a^2 - 8b^3)$

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$+ 56$

7) $bc^8 + \frac{6bc^4}{d^4} +$

$b\left(c^4 + \frac{3}{d^4}\right)^2$

$c^4 - 2$

$- 7)$

9) $(3s + t)^2 - (2s - t)^2$

$5s(s + 2t)$

10) $4x^4 + \frac{9}{x^4} - 12$

$\left(2x^2 - \frac{3}{x^2}\right)^2$