

Name : _____

Factors: Algebraic Identities

MS1

Factorize each expression using algebraic identities.

1) $8a^2 - 32b^2$

2) $9u^2 + \frac{4}{u^2} + 12$

3) $7z^3 - z^4 - 12z + z^2$

5) $\frac{4n}{m^2} + \frac{8n}{m} + 3$

7) $\frac{36}{t^2} - \frac{120}{t} + 100$

9) $p^2 + 9pq + 20q^2$

10) $36k^2 + 12K + 1$

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Factors: Algebraic Identities

Factorize each expression using algebraic identities.

1) $8a^2 - 32b^2$

$8(a + 2b)(a - 2b)$

2) $9u^2 + \frac{4}{u^2} + 12$

$\left(3u + \frac{2}{u}\right)^2$

3) $7z^3 - z^4 - 12z^2 + z^2$

$-z^2(z - 4)(z - 3)$

5) $\frac{4n}{m^2} + \frac{8n}{m} + 3$

$n\left(\frac{2}{m} + 3\right)\left(\frac{2}{m} + 1\right)$

7) $\frac{36}{t^2} - \frac{120}{t} + 100$

$4\left(\frac{3}{t} - 5\right)^2$

9) $p^2 + 9pq + 20q^2$

$(p + 4q)(p + 5q)$

10) $36k^2 + 12k + 1$

$(6k + 1)^2$

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