

Name : _____

Factors: Algebraic Identity

MS1

Factorize each expression using algebraic identity.

1) $\frac{8}{x^2} - \frac{24}{x} + 10$

2) $a^2b^2 - abd + abc - cd$

3) $13m^2 - 130m + 25$

5) $\frac{1}{z^2} + \frac{22}{z} + 85$

7) $9k^4 + 24k^3 + 16k^2$

9) $24uv - 3u^2v^2 - 45$

10) $9s^2 + 3st - 2t^2$

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Answer key

MS1

Factors: Algebraic Identity

Factorize each expression using algebraic identity.

1) $\frac{8}{x^2} - \frac{24}{x} + 10$

$2\left(\frac{2}{x} - 5\right)\left(\frac{2}{x} - 1\right)$

2) $a^2b^2 - abd + abc - cd$

$(ab + c)(ab - d)$

3) $13m^2 - 130m + 45$

$13(m - 9)(m - 5)$

5) $\frac{1}{z^2} + \frac{22}{z} + 85$

$\left(\frac{1}{z} + 17\right)\left(\frac{1}{z} + 5\right)$

7) $9k^4 + 24k^3 + 16k^2$

$k^2(3k + 7)(3k + 1)$

9) $24uv - 3u^2v^2 - 45$

$-3(uv - 3)(uv - 5)$

10) $9s^2 + 3st - 2t^2$

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

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