

Name : _____

Factoring Polynomials - Synthetic Division

Sheet 3

Apply synthetic division method to factorize each polynomial.

1) $8c^4 + 17c^3 - 6c^2 - 17c - 2$

2) $2g^5 - 12g^4 + 8g^3 + 12g^2 - 10g$

3) $h^3 - 5h^2 - 16h + 80$

$28t + 48$

5) $4w^3 - 9w$

$+ 84k^2 + 45k$

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1) Determine whether $x - 2$ is a factor of $-x^7 - 6x^5 + 11x^3 - 4x$.

Name : _____

Answer key

Sheet 3

Factoring Polynomials - Synthetic Division

Apply synthetic division method to factorize each polynomial.

1) $8c^4 + 17c^3 - 6c^2 - 17c - 2$

2) $2g^5 - 12g^4 + 8g^3 + 12g^2 - 10g$

$(8c + 1)(c - 1)(c + 1)(c + 2)$

$2g(g - 1)^2(g - 5)(g + 1)$

3) $h^3 - 5h^2 - 16h + 80$

$28t + 48$

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$(h + 4)(h - 4)(h - 5)$

$6)(t + 1)$

5) $4w^3 - 9w$

$+ 84k^2 + 45k$

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$w(2w + 3)(2w - 3)$

$k(k + 1)(k + 5)(k + 3)^2$

1) Determine whether $x - 2$ is a factor of $-x^7 - 6x^5 + 11x^3 - 4x$.

No, $x - 2$ is not a factor of $-x^7 - 6x^5 + 11x^3 - 4x$.