



Long Division Method

Name _____

Score _____

DP:16

Divide the polynomials by long division method.

$$1) (x^2 - 5x + 6) \div (x - 3)$$

$$2) (5m^5 - 14m^4 - 32m^3 - 39m^2 - 51m + 27) \div (5m^2 + 6m - 3)$$

$$3) (6x^4 + 11x^3 + 4x^2 + 24x + 32) \div (2x^3 + x^2 + 8)$$

$$4) (b^5 - b^3 + b^2 - 1) \div (b^2 - 1)$$

$$5) (3v^4 + 21v^3 - 7v^2 - 47v + 14) \div (v + 7)$$

$$6) (10g^5 - 16g^4 - 31g^3 + 15g^2 + 14g - 4) \div (2g^3 - 4g^2 - 3g + 1)$$



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Answer key

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Divide the polynomials by long division method.

1) $(x^2 - 5x + 6) \div (x - 3)$

x - 2

2) $(5m^5 - 14m^4 - 32m^3 - 39m^2 - 51m + 27) \div (5m^2 + 6m - 3)$

m³ - 4m² - m - 9

3) $(6x^4 + 11x^3 + 4x^2 + 24x + 32) \div (2x^3 + x^2 + 8)$

3x + 4

4) $(b^5 - b^3 + b^2 - 1) \div (b^2 - 1)$

b³ + 1

5) $(3v^4 + 21v^3 - 7v^2 - 47v + 14) \div (v + 7)$

3v³ - 7v + 2

6) $(10g^5 - 16g^4 - 31g^3 + 15g^2 + 14g - 4) \div (2g^3 - 4g^2 - 3g + 1)$

5g² + 2g - 4