



Long Division Method

Name _____

Score _____

DP:20

Divide the polynomials by long division method.

1) $(14x^2 - 61x - 90) \div (7x + 8)$

2) $(2k^4 - 3k^3 - 69k^2 - 78k - 15) \div (2k^2 + 9k + 1)$

3) $(y^5 + 3y^3 - 4y^2 - 10) \div (y^3 - 4)$

4) $(12m^3 + 17m^2 - 11m - 11) \div (4m + 7)$

5) $(g^5 + 4g^4 - 8g^3 + 28g^2 + 3g - 25) \div (g^3 + 6g^2 - g - 4)$

6) $(4t^4 + 9t^3 + 5t^2 + 8t + 3) \div (t + 1)$



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Answer key

DP:20

Divide the polynomials by long division method.

1) $(14x^2 - 61x - 90) \div (7x + 8)$

$$2x - 11 - \frac{2}{7x + 8}$$

2) $(2k^4 - 3k^3 - 69k^2 - 78k - 15) \div (2k^2 + 9k + 1)$

$$k^2 - 6k - 8 - \frac{7}{2k^2 + 9k + 1}$$

3) $(y^5 + 3y^3 - 4y^2 - 10) \div (y^3 - 4)$

$$y^2 + 3 + \frac{2}{y^3 - 4}$$

4) $(12m^3 + 17m^2 - 11m - 11) \div (4m + 7)$

$$3m^2 - m - 1 - \frac{4}{4m + 7}$$

5) $(g^5 + 4g^4 - 8g^3 + 28g^2 + 3g - 25) \div (g^3 + 6g^2 - g - 4)$

$$g^2 - 2g + 5 - \frac{5}{g^3 + 6g^2 - g - 4}$$

6) $(4t^4 + 9t^3 + 5t^2 + 8t + 3) \div (t + 1)$

$$4t^3 + 5t^2 + 8 - \frac{5}{t + 1}$$