



Long Division Method

Name _____

Score _____

DP:19

Divide the polynomials by long division method.

1) $(2p^5 - 5p^4 - 6p^3 + 28p^2 - 53p + 36) \div (2p^2 - 3p + 5)$

2) $(3x^2 - 34x + 81) \div (x - 8)$

3) $(n^5 + 6n^4 - 6n^3 - 35n^2 - 10) \div (n^3 + 6n^2 + 1)$

4) $(6b^3 - 17b^2 + 21b - 49) \div (2b - 5)$

5) $(8y^4 - 2y^2 - 20) \div (4y^2 - 7)$

6) $(w^4 - 2w^3 - 20w^2 - 47w - 38) \div (w^2 - 5w - 9)$



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Answer key

DP:19

Divide the polynomials by long division method.

1) $(2p^5 - 5p^4 - 6p^3 + 28p^2 - 53p + 36) \div (2p^2 - 3p + 5)$

$$p^3 - p^2 - 7p + 6 + \frac{6}{2p^2 - 3p + 5}$$

2) $(3x^2 - 34x + 81) \div (x - 8)$

$$3x - 10 + \frac{1}{x - 8}$$

3) $(n^5 + 6n^4 - 6n^3 - 35n^2 - 10) \div (n^3 + 6n^2 + 1)$

$$n^2 - 6 - \frac{4}{n^3 + 6n^2 + 1}$$

4) $(6b^3 - 17b^2 + 21b - 49) \div (2b - 5)$

$$3b^2 - b + 8 - \frac{9}{2b - 5}$$

5) $(8y^4 - 2y^2 - 20) \div (4y^2 - 7)$

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

6) $(w^4 - 2w^3 - 20w^2 - 47w - 38) \div (w^2 - 5w - 9)$

$$w^2 + 3w + 4 - \frac{2}{w^2 - 5w - 9}$$