



Long Division Method

Name _____

Score _____

DP:21

Divide the polynomials by long division method.

1) $(2d^4 + 3d^3 - 32d^2 + 32d - 1) \div (2d - 5)$

2) $(15p^5 + 23p^4 - 11p^3 + 16p - 13) \div (3p^3 + p^2 - p + 2)$

3) $(z^2 + 18z + 90) \div (z + 10)$

4) $(21x^3 - x^2 + 31x - 16) \div (3x - 1)$

5) $(12m^5 - 22m^3 + 10m^2 + 6m - 22) \div (2m^2 - 3)$

6) $(20h^4 + 21h^2 - 51) \div (4h^2 + 9)$



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Answer key

DP:21

Divide the polynomials by long division method.

1) $(2d^4 + 3d^3 - 32d^2 + 32d - 1) \div (2d - 5)$

$$d^3 + 4d^2 - 6d + 1 + \frac{4}{2d - 5}$$

2) $(15p^5 + 23p^4 - 11p^3 + 16p - 13) \div (3p^3 + p^2 - p + 2)$

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

3) $(z^2 + 18z + 90) \div (z + 10)$

$$z + 8 + \frac{10}{z + 10}$$

4) $(21x^3 - x^2 + 31x - 16) \div (3x - 1)$

$$7x^2 + 2x + 11 - \frac{5}{3x - 1}$$

5) $(12m^5 - 22m^3 + 10m^2 + 6m - 22) \div (2m^2 - 3)$

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

6) $(20h^4 + 21h^2 - 51) \div (4h^2 + 9)$

$$5h^2 - 6 + \frac{3}{4h^2 + 9}$$