

Math Sheet

Name _____ Score _____ / 10 Teacher _____ Date _____

Dividing Polynomials

Divide each polynomial by the monic linear divisor. Write the quotient and any remainder over the original divisor.

1. $(z^2 - 3z - 16) \div (z - 9)$

2. $(-b^3 + b^2 + 15b - 3) \div (b - 9)$

3. $(-3q^2 - q + 16) \div (q - 2)$

4. $(3s^2 + 4) \div (s + 9)$

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

6. $(s^2 + 18) \div (s + 6)$

7. $(-2y^2 - 15y - 20) \div (y - 5)$

8. $(-s^2 + 5) \div (s - 8)$

9. $(3q^3 - 17q^2 - 2q + 7) \div (q + 7)$

10. $(4y^3 + 18y^2 + y + 9) \div (y + 9)$

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Dividing Polynomials

Answer key

Divide each polynomial by the monic linear divisor. Write the quotient and any remainder over the original divisor.

1. $(z^2 - 3z - 16) \div (z - 9)$

$$z + 6 + \frac{38}{(z - 9)}$$

2. $(-b^3 + b^2 + 15b - 3) \div (b - 9)$

$$-b^2 - 8b - 57 - \frac{516}{(b - 9)}$$

3. $(-3q^2 - q + 16) \div (q - 2)$

$$-3q - 7 + \frac{2}{(q - 2)}$$

4. $(3s^2 + 4) \div (s + 9)$

$$3s - 27 + \frac{247}{(s + 9)}$$

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

$$-4q^2 + 15q - 55 + \frac{230}{(q + 4)}$$

6. $(s^2 + 18) \div (s + 6)$

$$s - 6 + \frac{54}{(s + 6)}$$

7. $(-2y^2 - 15y - 20) \div (y - 5)$

$$-2y - 25 - \frac{145}{(y - 5)}$$

8. $(-s^2 + 5) \div (s - 8)$

$$-s - 8 - \frac{59}{(s - 8)}$$

9. $(3q^3 - 17q^2 - 2q + 7) \div (q + 7)$

$$3q^2 - 38q + 264 - \frac{1841}{(q + 7)}$$

10. $(4y^3 + 18y^2 + y + 9) \div (y + 9)$

$$4y^2 - 18y + 163 - \frac{1458}{(y + 9)}$$