Name_______________________________________

Dividing Polynomials

Date________________ Period____

Divide.

Ex: 1) $(n^2 + 5n - 50) \div (n - 5)$ → Factor

Think: What two #'s multiply to give −50, but when you add them you get 5? 10, −5

$$\frac{(n+10)\cancel{(n-5)}}{\cancel{(n-5)}} = \boxed{n+10}$$

2) $(k^2 + 14k + 40) \div (k + 4)$

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

4) $(x^2 + 3x - 18) \div (x - 3)$

6) $(x^2 + 6x - 40) \div (x - 4)$

Name Answer Key

Dividing Polynomials

Date________________ Period____

Divide.

Ex: 1) $(n^2 + 5n - 50) \div (n - 5)$

Factor

Think: What two #'s multiply to give −50, but when you add them you get 5? 10, −5

$$\frac{(n+10)\cancel{(n-5)}}{\cancel{(n-5)}} = \boxed{n+10}$$

2) $(k^2 + 14k + 40) \div (k + 4)$

$$\frac{k^2+14k+40}{k+4} = \frac{\cancel{(k+4)}(k+10)}{\cancel{(k+4)}} = \boxed{k+10}$$

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

$$\frac{(x+4)\cancel{(x-1)}}{\cancel{(x-1)}} = \boxed{x+4}$$

4) $(x^2 + 3x - 18) \div (x - 3)$

$$\frac{(x+6)\cancel{(x-3)}}{\cancel{(x-3)}} = \boxed{x+6}$$

6) $(x^2 + 6x - 40) \div (x - 4)$

$$\frac{(x+10)\cancel{(x-4)}}{\cancel{(x-4)}} = \boxed{x+10}$$