Principles of Algebra Name/Date Clee / Today

ALL PROBLEMS CAN BE COMPLETED ON THIS WORKSHEET

WS 13C.1 – Solving Polynomial Equations

#1-10, Solve each equation.

1. $n^2 - 6n - 7 = 0$

$(n-7)(n+1) = 0$

$n-7=0$ OR $n+1=0$

$\boxed{n=7 \text{ OR } n=-1}$

2. $x^2 - 16 = 0$

$(x+4)(x-4) = 0$

$x+4=0$ OR $x-4=0$

$\boxed{x=-4 \text{ OR } x=4}$

3. $3y^2 - 9y = 0$

$3y(y-3) = 0$

$3y=0$ OR $y-3=0$

$\boxed{y=0 \text{ OR } y=3}$

4. $z^2 - 10z + 9 = 0$

$(z-9)(z-1) = 0$

$z-9=0$ OR $z-1=0$

$\boxed{z=9 \text{ OR } z=1}$

5. $2x^2 - 3x + 1 = 0$

$(2x-1)(x-1) = 0$

$2x-1=0$ OR $x-1=0$

$2x=1$

$\boxed{x=\frac{1}{2} \text{ OR } x=1}$

6. $3n^2 + 14n + 16 = 0$

$(3n+8)(n+2) = 0$

$3n+8=0$ OR $n+2=0$

$3n=-8$

$\boxed{n=\frac{-8}{3} \text{ OR } n=-2}$

7. $5z^2 - 5z - 60 = 0$

$5(z^2 - z - 12) = 0$

$5(z-4)(z+3) = 0$

$z-4=0$ OR $z+3=0$

$\boxed{z = 4 \text{ OR } z = -3}$

8. $8d^2 - 50 = 0$

$2(d^2 - 25) = 0$

$2(d+5)(d-5) = 0$

$d+5=0$ OR $d-5=0$

$\boxed{d = -5 \text{ OR } d = 5}$

9. $x^2 - 7x = -12$ ← must get a zero on one side before factoring
$+12 \quad +12$

$x^2 - 7x + 12 = 0$

$(x-4)(x-3) = 0$

$x-4=0$ OR $x-3=0$

$\boxed{x = 4 \text{ OR } x = 3}$

10. $3m^2 = 15m$ ← must get a zero on one side before factoring
$-15m \quad -15m$

$3m^2 - 15m = 0$

$3m(m-5) = 0$

$3m=0$ OR $m-5=0$

$\boxed{m = 0 \text{ OR } m = 5}$