Student Notes

Solve the equations below by factoring.

1. $x(x-18)=0$

$x=0$ $\quad x-18=0$

$x=18$

2. $(2x-3)(5x-8)=0$

$2x-3=0$ $\quad 5x-8=0$

$2x=3$ $\quad 5x=8$

$x=3/2$ $\quad x=8/5$

3. $x^2+13x+36=0$

$(x+9)(x+4)=0$

$x+9=0$ $\quad x+4=0$

$x=-9$ $\quad x=-4$

36

$36\cdot 1$

$18\cdot 2$

$12\cdot 3$

$9\cdot 4$ *

$6\cdot 6$

4. $x^2-3x-10=0$

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

$x-5=0$ $\quad x+2=0$

$x=5$ $\quad x=-2$

-10

$-10\cdot 1$

$-5\cdot 2$

5. $3x^2=12x$

$3x^2-12x=0$

$3x(x-4)=0$

$\frac{3x}{3}=\frac{0}{3}$ $\quad x-4=0$

$x=0$ $\quad x=4$

6. $6x^2+5=-17x$

$6x^2+17x+5=0$ (a = 6, b = 17, c = 5)

$6x^2+2x+15x+5$

$2x(3x+1)+5(3x+1)$

$(2x+5)(3x+1)$

30	17
ca	b
$1\cdot 30$	
$2\cdot 15$	
$6\cdot 5$	
$3\cdot 10$	

$2x+5=0$ $\quad 3x+1=0$

$2x=-5$ $\quad 3x=-1$

$x=-5/2$ $\quad x=-1/3$

Given the roots find the quadratic equation.

7. $x:\{-2,5\}$

$x=-2$ $\quad x=5$

$x+2=0$ $\quad x-5=0$

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

$x^2+2x-5x-10=0$

$x^2-3x-10=0$

8. $x:\{4,7\}$

$x=4$ $\quad x=7$

$x-4=0$ $\quad x-7=0$

$(x-4)(x-7)=0$

$x^2-4x-7x+28$

$x^2-11x+28$

9. $x:\left\{-\frac{4}{5},7\right\}$

$x=7$

$x-7=0$

$(5)\,x=-4/5\,(5)$

$5x=-4$

$5x+4=0$

$(5x+4)(x-7)=0$

$5x^2+4x-35x-28=0$