

HW 71

- $(x-5)(x-5) = (x-5)^2$
 - $(x+5/2)(x+5/2) = (x+5/2)^2$
 - $(2x-3)(2x-3) = (2x-3)^2$
 - $(x-y)(x-y) = (x-y)^2$
- 100
 - $49/4$
 - 16
 - 6
- $y = (x^2 + 20x + 100) - 100 + 94$
 $y = (x+10)^2 - 6$
 - $y = (x^2 - 7x + 49/4) - 49/4 + 16$
 $y = (x-7/2)^2 + 3.75$
 - ~~$y = 4(x^2 - 4x + 4) - 24 + 147$
 $y = 4(x-2)^2 + 123$~~
 - ~~$y = 5(x^2 + 8/5 x + 0.64) - 4.36$
 $y = 5(x + 4/5)^2 - 4.36$~~

12. a) $2x^2 - 6x + 4x - 12$
 $2x^2 - 2x - 12$

b) $x^3 + x + 2x^2 + 2$
 $x^3 + 2x^2 + x + 2$

13. set each piece equal to zero

$$x-2=0$$

$$\boxed{x=2}$$

$$x+3=0$$

$$\boxed{x=-3}$$

$$2x-1=0$$

$$\boxed{x=1/2}$$

WKst

1. $(11/2)^2 = 30.25 (x+5.5)^2$

3. $(5/6)^2 = \frac{25}{144} (x+5/12)^2$

5. ~~4~~² $2(x+1)^2$

7. $2(x^2 - 14x + \underline{\quad}) 49, 2(x-7)^2$

9. $5(x^2 - 64x + \underline{\quad}) 1024, 5(x-32)^2$

11. $f(x) = (x^2 - 9x + \frac{81}{4}) + 18 - \frac{81}{4}$
 $= (x - 9/2)^2 - 9/4$

13. $f(x) = (x^2 - 7/4 x + \frac{49}{64}) - 4 + \frac{49}{64}$
 $= (x - 7/8)^2 - 305/64$

15. $f(x) = -4(x^2 + 10x + \underline{25}) - 40 - \underline{-100}$
 $= -4(x+5)^2 + 60$

17. $f(x) = -3(x^2 + 10x + \underline{25}) - 80 - \underline{-75}$
 $= -3(x+5)^2 - 5$

19. $x^2 - x - 2 = 0$

$$(x^2 - x + \frac{1}{4}) - 2 + \frac{1}{4} = 0$$

$$(x - 1/2)^2 - 9/4 = 0$$

$$\sqrt{(x - 1/2)^2} = \sqrt{9/4}$$

$$x - 1/2 = \pm 3/2$$

$$\boxed{x=2}, \boxed{x=-1}$$