T/PC
CH2
Sec 2.4 Review WS

1. $q(x) = x^2 + x + 4$
$r(x) = x + 5$
$r(x) = -17$

2. $q(x) = x^2 + 1$
$d(x) = x^2 - 2x + 5$
$r(x) = -2x + 5$

*Recall
P.F. $= q(x) \cdot d(x) + r(x)$
F.F. $= q(x) + \frac{r(x)}{d(x)}$

3. $2x^2 + x + 3 + \frac{-13}{x+1}$

4. $3x^4 - 2x^3 + 4x^2 - 6x + 12 + \frac{-25}{x+2}$

5. $f(-2) = -10$

6. $f(2) = 185$

7. $f(3) = 431$

8. $f(-4) = -128$; $x+4$ is <u>not</u> a factor

9. $f(-2) = 0$; $x+2$ is a factor

10. $f(-5) = 10$; $x+5$ is <u>not</u> a factor

11. $f(x) = (x-1)(x+3)(5x+23)$

12. $\pm 1, \pm 2, \pm 4, \pm 8, \pm \frac{1}{2}$

13. $\pm 1, \pm 3, \pm 9, \pm 27, \pm \frac{1}{3}$

14. $x = 2$
$x = \pm \frac{1}{2}$

15. No rat'l zeros

16. Yes (last row all +)

17. Yes (last row has one $-$ #)

18. $x = -2$ rat'l
$x = \pm\sqrt{5}$ irrat'l

19. $x = -1$
$x = -7/2$
$x = 1/3$
} all are rat'l