1. $–x^{2}-2x+2$
2. $12x^{2}-13xy-14y^{2}$
3. $6x^{5}y^{4}-8x^{3}y^{7}$
4. $x^{2}+\frac{1}{2}x-\frac{3}{16}$
5. $9x^{2}-42x+49$
6. $4x^{2}-49$
7. $-6xy^{2}\left(3x^{2}z+4y\right)$
8. $3\left(x+6\right)(x-4)$
9. $(5x+4y)^{2}$
10. $2\left(x-2\right)\left(x^{2}+2x+4\right)$
11. $\left(m+3\right)\left(m-3\right)(m^{2}+9)$
12. $NOT FACTORABLE (All problems on test are factorable)$
13. $3x^{2}\left(7x^{2}-4x+2\right)$
14. x = 0, x = 3/2, x = ¼
15. x = 8/5 or x = -7
16. x = 10 or x = -2
17. x = -1/3 or x = 7/2
18. m = 4, b = 1
19. m = -2, b = 4
20. a) yes b) yes c) no
21. a) D: (-infinity, infinity) R: [-3, infinity)

b) D: [-3, infinity) R: [0, infinity)

 21) f(-2) = -22

 f(1/2) = -3/4