SM3H review 1.1-1.5 answers

1. $2x^3 + 4x^2 - 5x - 3$

2. $-2x^3 - 4x^2 - 3x - 1$

3. $4x^4 + 9x^3 - 13x^2 - x + 3$

4. $-x^2 + 25x - 8$

5. $9x^2 + 12xy + 4y^2$

6. $x^3 - 6x^2y + 12xy^2 - 8y^3$

7. $x^2 + 2x - 24$

8. $25x^2 - 1$

9. $(4x + 7)(4x - 7)$

10. $(x + 5)(x^2 - 5x + 25)$

11. $(x - 7)(x + 3)$

12. $9(x + 3)(x - 3)$

13. a

14. b

15. $\lim_{x\to-\infty} f(x) = -\infty$ $\lim_{x\to+\infty} f(x) = +\infty$

16. $\lim_{x\to-\infty} f(x) = \infty$ $\lim_{x\to+\infty} f(x) = -\infty$

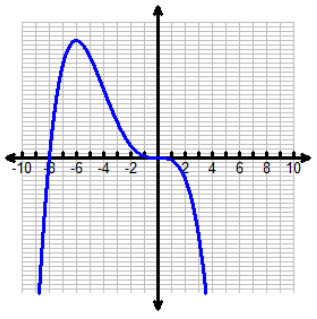
17. $\lim_{x\to-\infty} f(x) = \infty$ $\lim_{x\to+\infty} f(x) = -\infty$

18. $\lim_{x\to-\infty} f(x) = \infty$ $\lim_{x\to+\infty} f(x) = \infty$

19. degree 4

Zero	Multiplicity	Touch/Cross
0	3	cross
-8	1	cross

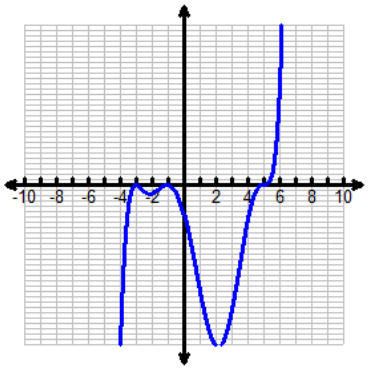
$\lim_{x\to-\infty} f(x) = -\infty$ $\lim_{x\to+\infty} f(x) = -\infty$



20. Degree 7

Zero	Multiplicity	Touch/Cross
-3	2	touch
-1	2	touch
5	3	cross

$\lim_{x\to-\infty} f(x) = -\infty$ $\lim_{x\to+\infty} f(x) = \infty$



21. Zeros $(3,0), (-1,0), (1,0)$

y-int (0, -3)

$\lim_{x\to-\infty} f(x) = \infty$ $\lim_{x\to+\infty} f(x) = -\infty$

22. $x^2 + 5x + 1$

23. $2x^2 - x - 3 + \frac{2}{x-3}$