ANSWER PRESENTATION TOOL

1. $m = -1$; If $m = -1$, the third column will add to give a constant term of -1. When the -1 is multiplied by 3 and placed in the last column, the sum of the last column is 0.

2. positive; 5; 5; There are 5 real zeros because the graph crosses the x-axis 5 times. The function has degree 5 because there are 5 real zeros. Because the function has an odd degree and the end behavior of the graph is $f(x) \to -\infty$ as $x \to -\infty$ and $f(x) \to \infty$ as $x \to \infty$, the function's leading coefficient must be positive.

3. D

4. $(-4,1)$ and $(-5,1)$; $(1, 1)$, $(0, 1)$, and $(-2, 1)$; Because the axis of symmetry can be found by using the mean of two symmetrical points, the mean of the x-coordinates must be negative when the axis of symmetry is $x = -a$, and positive when it is $x = a$.

5. **a.** $1; -3; 2$

b. $1; 2; -3$

c. $2; 0; 2$

d. $\frac{1}{2}; 3; -4$

6. D

7. **a.** odd; $f(-x) = -f(x)$

b. odd; $f(-x) = -f(x)$

c. neither; $f(-x) \neq -f(x)$ and $f(-x) \neq f(x)$

d. even; $f(-x) = f(x)$

e. odd; $f(-x) = -f(x)$

f. even; $f(-x) = f(x)$

8. C

9. The function has a local maximum at (1.04, 407.41); The maximum represents the time when the number of retirees receiving Social Security benefits was at its peak.