

For each expression, (a) determine if it is a polynomial in one variable (yes/no). **If yes**, (b) name its degree and (c) leading coefficient. Place the answers in the text box below.

1) $r^5 - 3r^4 + 2r + rq^5$

2) $3n^8 - 2n^4 + n^2 - 11n + 2$

3) $\frac{3}{z^2} + \frac{1}{z}$

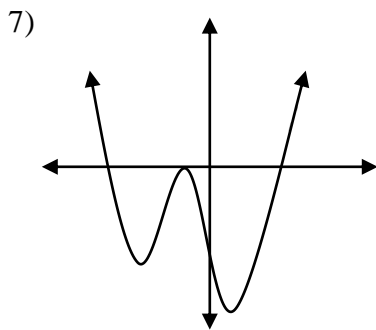
4) $\frac{y}{5} + \frac{4}{9}$

5) $x^2 + (3 - 2i)$

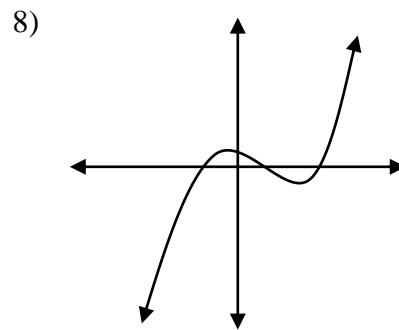
6) $9b - 2b^5 + 3b^4 - b^3 - 7b^8$

1a) _____	2a) _____	3a) _____	4a) _____	5a) _____	6a) _____
b) _____	b) _____	b) _____	b) _____	b) _____	b) _____
c) _____	c) _____	c) _____	c) _____	c) _____	c) _____

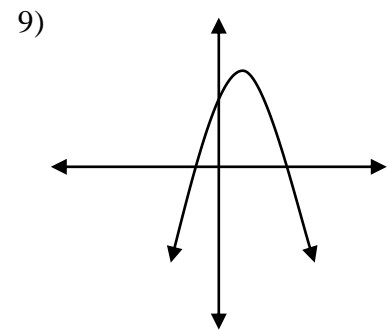
For each graph below, determine (a) if its degree is even or odd, (b) its end behavior and (c) the number of real zeros it contains.



- (a) _____
(b) _____
(c) _____



- (a) _____
(b) _____
(c) _____



- (a) _____
(b) _____
(c) _____

Use the functions; $f(x) = 4x - 13$, $g(x) = 3x^2 - 2x + 7$ and $h(x) = x^3 - 2$ to find the following...

10) $g(5)$

11) $h(-5)$

12) $f(y - 3)$

13) $h(3a^4)$

14) $7f(x)$

15) $3g(2b)$

16) $-9[f(w + 1)]$

17) $g(x - 2)$