

## Chapter 6 Review

### Answer Section

#### SHORT ANSWER

1.  $a^{10}b^8$
2.  $-18h^4i^3j^7$
3.  $64g^9h^{12}$
4.  $531,441g^{10}h^{16}$
5.  $3^3$
6.  $\frac{a^{10}}{6b^4}$
7.  $\frac{a^2}{4}$
8.  $\frac{9n^8p^4}{m^5}$
9. 10
10.  $-3a^2 + 12a + 8$
11.  $9a^2 - 2b^2 + 5a + b - 3$
12.  $-3a^2 + 11a + 6$
13.  $-7p^2 - 7q^2 + 16p - q$
14.  $-20r^5 + 10r^4 + 25r^3$
15.  $12s^5t^9 + 12s^3t^8 + 8s^2t^5$
16.  $f(2) = 24$
17.  $-2t^2 + 33t - 125$
18. As  $x \rightarrow \infty, g(x) \rightarrow \infty$ .  
As  $x \rightarrow -\infty, g(x) \rightarrow -\infty$ .
19. As  $x \rightarrow \infty, f(x) \rightarrow -\infty$ .  
As  $x \rightarrow -\infty, f(x) \rightarrow \infty$ .
20. The relative maximum is at  $x = -0.17$ , and the relative minimum is at  $x = 0$ .  
y-intercept is -8
21. The relative maximum is at  $x = 0$ , and the relative minimum is at  $x = 0.67$ .  
The y-intercept is 9
22. There are zeros between  $x = 1$  and  $x = 2$ ,  $x = -1$  and  $x = -2$ .
23. There are zeros between  $x = 1$  and  $x = 0$ ,  $x = 0$  and  $x = -1$ .
24.  $f(x) \rightarrow +\infty$  as  $x \rightarrow -\infty$  and  $f(x) \rightarrow -\infty$  as  $x \rightarrow +\infty$
25. y-intercept: 4  
zeros: 2, -2, 1, -1

26. The end behavior of the graph is  $f(x) \rightarrow +\infty$  as  $x \rightarrow +\infty$  and  $f(x) \rightarrow -\infty$  as  $x \rightarrow -\infty$ .  
It is an odd-degree polynomial function.  
It is a 5th degree polynomial  
The function has 5 real roots and 0 nonreal roots.
27. The end behavior of the graph is  $f(x) \rightarrow -\infty$  as  $x \rightarrow +\infty$  and  $f(x) \rightarrow -\infty$  as  $x \rightarrow -\infty$ .  
It is an even-degree polynomial function.  
It is a 4th degree polynomial.  
The function has 2 real roots and 2 nonreal roots.