1. \( g(x) = 3^x \) is a[n] _______ function.

2. \( s(x) = x^2 \quad t(x) = x + 3 \) Evaluate \( s(t(3)) \) and \( t(s(3)) \).

3. The graph of function \( f \) goes through points (-1,1), (0,0), and (1,1). Find an equation for \( f \). [Why is the question worded “an equation” and not “the equation?”]

4. I bicycle across the Molden Mate Bridge, ride a flat road, then up the hill to the top of the Garin Headlands. At the top I turn around to go down the hill, over the flats, and back over the bridge. As I look at my speedometer, it appears that I go a steady 15 miles per hour \([mph]\) on the flats (including the bridge), 6 \( mph \) on the “up-hill” and 24 \( mph \) on the “down-hill”.

(a) If I add my speeds and divide by 3, I see that my average speed is 15 mph. Why do I divide by 3?

(b) It turns out that the entire ride takes an hour and a half and that I travel 18 miles. What does this say about my calculation in part (a)?

(c) How many ”flat” miles were in my ride? How many “up-hill” miles? How many “down-hill” miles?

(d) Use graph paper to produce an accurate graph of \( time \) vs. \( distance \) traveled. [Use your answers to part (c).]

(e) Use graph paper to produce an accurate graph of \( time \) vs. \( speed \).

(f) From first graph [part (d)], how can I tell how fast I am going at any point in time?

(g) From second graph [part (e)], how can I find the total miles traveled at any point in time?
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