8.03 - Homework #1 - 17 all

Tell whether each function represents exponential growth or decay.

1) \( y(x) = 12 (2.5)^x \)
2) \( k(x) = 500 (1.5)^x \)
3) \( y(x) = 2 (0.1)^x \)
4) \( d(x) = 0.2 (2)^x \)
5) \( g(x) = 0.25 (1.8)^x \)
6) \( s(x) = (1/2)^x \)

Graph each exponential function.

7) \( y(x) = 3(2)^x \)
8) \( k(x) = 50 (1/2)^x \)
9) \( y(x) = 2 (0.1)^x \)
10) \( d(x) = 0.2(1/3)^x \)
11) \( g(x) = 0.25 (1.8)^x \)
12) \( s(x) = (0.5)^x \)

Find the total amount for each investment.

13) $1000 at 6% interest compounded continuously for 20 years.
14) $750 at 10% interest compounded quarterly for 10 years.
15) $1800 at 5.65% interest compounded daily for 3 years.
16) $1200 at 5% interest compounded continuously for 10 years.
17) $5000 at 6.5% interest compounded semiannually for 12 years.