1. (a) $0.25*16 + 0.25*14 + 0.25*12 + 0.25*8 = 12.5$miles
        lower estimate

    (b) $0.25*18 + 0.25*16 + 0.25*14 + 0.25*2 = 15$miles
        upper estimate

2. upper estimate
   $2(20) + 2(30) + 2(38) = 176$ meters

   Note: the 38 for the last rectangle is an estimate based on the graph and might be slightly different.

3. (a) 4

    (b) about 14.3 boxes

    (c) 4*14.3 $= 57.2$

4. $2*9 + 2*25 + 2*49 = 166$

5. (a) $\int_{1}^{7} x^2 dx = 114$

    (b) $\int_{1.1}^{1.8} e^x * \ln(x) dx = 1.1871$

6. (a) 13

    (b) -2

    (c) 13-2=11

    (d) $13+2 = 15$