1. **(3pts) Solution: 1**
   The two equations given can be multiplied together. The product of $(x + y)(x - y) = x^2 - y^2$. Since $x + y = 10$ and $x - y = \frac{1}{10}$, $x^2 - y^2 = (10)(\frac{1}{10}) = 1$

2. **(2pts) Solution:** 83%

3. **(3pts) Solution:** $\frac{1}{12}$

4. **(3pts) Solution:** 13838

5. **(3pts) Solution:** 46.41%

6. **(2pts) Solution:** 18

7. **(3pts) Solution:** $x_2 = 11.128\,m \;\; and\; x_1 = 17.809\,m$
   1) *Remembering the acronym SOHCAHTOA is helpful for this*
   2) *{Sine, Opposite/Hypotenuse}, {Cosine, Adjacent/Hypotenuse}, and {Tangent, Opposite/Adjacent}*
   3) *First, we set up the equation to find* x_1*. In this case we use the function Sine.*
   4) $sin(58) = \frac{x_1}{21}$*, multiply both sides by 21.*
   5) $21 * sin(58) = x_1$
   6) $x_1 = 17.809$
   7) *To find* x_2 *, you use the function Cosine.*
   8) $cos(58) = \frac{x_2}{21}$*, again, multiply both sides by 21.*
   9) $21 * cos(58) = x_2$
   10) $x_2 = 11.128$
   11) *The final answer is* $x_2 = 11.128\,m^2\; and\; x_1 = 17.809\,m^2$

8. **(4pts) Solution:** 34

9. **(3pts) Solution:** $\frac{125}{108}\pi\; or\; 3.636$

10. **(4pts) Solution:** 0