Pre-Calc AB Worksheet #3 : Answers

1. The shortest side is 6 cm long.

2. The kite is 40 feet above the ground at an angle of elevation of about $53.13°$.

3. (a) Units rented are $80 - x$.
   (b) The rent is $400 + 20(x)$ dollars.
   (c) $R = (80 - x)(400 + 20x)$
   (d) When $x = 5$ or $x = 55$.

4. (a) x can be any value between 0 and 9.
   (b) The total cost is $400(9 - x) + 500\sqrt{36 + x^2}$.
   (c) The total cost is about \$5442.62 when 3 miles of cable are on land.

5. The shuttle traveled about 3.201 miles in 10 seconds so it's average speed is about 1152.241 mph.

6. The total length of the wire is $\sqrt{x^2 + (12)^2} + \sqrt{(20 - x)^2 + (16)^2}$ feet. If x is 16 feet then the length of the wire is about 36.49 feet.

7. 4 milliliters of water should be added.

8. 8 liters should be drained and replaced with antifreeze.