

Algebra 3 Assignment # 11

- (1) One positive integer is 3 greater than another. The sum of the squares of the two integers is 89. Find the integers.
- (2) How wide a border of uniform width should be added to a rectangle that is 8 ft by 12 ft to double the area?
- (3) A backyard swimming pool is rectangular in shape, 10 m wide and 18 m long. It is surrounded by a walk of uniform width whose area is 52 square meters. How wide is the walk?
- (4) A boat travels downstream(with the current) for 36 miles and then makes the return trip upstream(against the current). The downstream trip took $\frac{3}{4}$ of an hour less than the upstream. If the rate of the current is 4mph find the rate of the boat in still water and the time for each part of the trip.
- (5) The sum of two numbers is 12. Find the two numbers if their product is a maximum.
- (6) The difference of two numbers is 22. Find the numbers if their product is to be a minimum.

Answers:

1. $x=5$
2. $x=2$
3. $x = -7 \pm \sqrt{62}$
4. Time = 2.5 hours speed = 20
5. $x=6$ $y=6$
6. $x=11$; $y=-11$ Min product = -121