

## Homework 2: 9.3 #18 and 9.3 #58 – Student answers that were full & correct:

9.3 #18 This problem had two parts, and you needed to remember for part a that (0,0) is one of the vertices, so you have  $(6-1)! = 5! = 5 \times 4 \times 3 \times 2 \times 1 = 120$ . There was also a part b. Don't miss parts of problems.

18. 6 points = 120 routes  
 $(n-1)!$   
 $(6-1)!$   
 $5!$   
 $5 \cdot 4 \cdot 3 \cdot 2 \cdot 1$   
 $= 120$

#15 + #17 were the best drilling sequences because they were the shortest routes.

9.4 #58 Some of you found a pattern and just went with it instead of showing work on each problem, which for this section is OK, but be sure to be able to work with the 30-60-90 triangle for the test – and do show all work on homework in general. It was OK with answer this with either an expression containing a square root or with a decimal value.

55.

800 mi

700 mi

$\frac{1}{2} \sqrt{3}$

60°

350 mi

30°

$\frac{\sqrt{3}}{2}$

Nice!

$$\frac{2}{\sqrt{3}} \times \frac{\sqrt{3}}{2} = \frac{350 \times 2}{\sqrt{3}}$$
$$s = \frac{700}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}} = \frac{700\sqrt{3}}{3} \approx 404.15 \text{ mi}$$
$$404.15 \times 4 = 1616.6 \quad 800 - 404.15 = 395.85$$
$$1616.6 + 395.85$$
$$\approx 2012.45 \text{ mi}$$