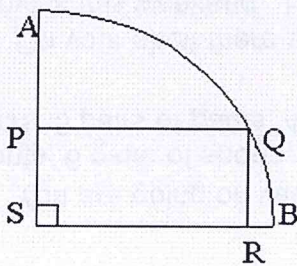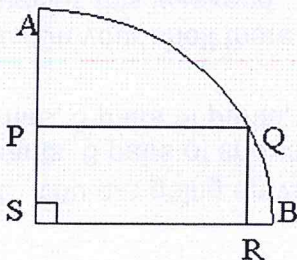Bellwork   Alg 2B   Thursday, March 29, 2018

1. In a production of Grease, eight actors are considered for the male roles of Danny, Kenickie, and Marty. In how many ways can the director cast the male roles?

2. You are going on vacation and need to pack your suitcase. In your closet there are 15 shirts, 8 pairs of pants, 6 pairs of shorts, 5 pairs of shoes, and 9 hats. How many ways can you pack the following: 8 shirs, 3 pairs of pants, 4 pairs of shorts, 2 pairs of shoes, and 3 hats?

3. On your shelf there are the following movies: 5 mystery and 6 comedy. You are going to watch 4 movies this weekend. How many ways can you choose 4 mysteries or 4 comedies?

4. In the quarter circle shown below PQRS is a rectangle with sides PQ = 8 and PS = 6. What is the length of the arc AQB ?

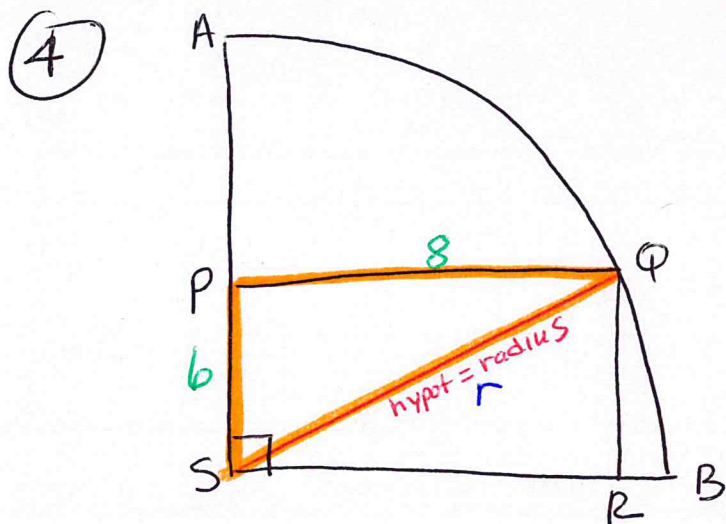A. 5π B. 10π C. 25   D. 14   E. 28

① $\quad _8P_3 = \boxed{336}$

② $\quad \underset{\text{SHIRTS}}{\dfrac{_{15}C_8}{}} \cdot \underset{\text{pants}}{\dfrac{_8C_3}{}} \cdot \underset{\text{SHORTS}}{\dfrac{_6C_4}{}} \cdot \underset{\text{SHOES}}{\dfrac{_5C_2}{}} \cdot \underset{\text{HATS}}{\dfrac{_9C_3}{}}$

$= 6435 \cdot 56 \cdot 15 \cdot 10 \cdot 84 =$

$$\boxed{4,540,536,000}$$

③ $\quad \underset{\text{MYSTERIES}}{\dfrac{_5C_4}{}} + \underset{\text{COMEDIES}}{\dfrac{_6C_4}{}} = 5 + 15 = \boxed{20}$

④

$r^2 = 8^2 + 6^2$
$r^2 = 64 + 36$
$r^2 = 100$
$r = 10$

$\underline{\underline{\text{Arc } AQB}} = \frac{1}{4} \text{ of circle's circumference}$

$= \frac{1}{4}(2\pi r) = \frac{1}{4}(2\pi \cdot 10)$

$= \boxed{5\pi} \; A$