Name _____ Date _____ Class_____

LESSON 22-3

Practice and Problem Solving: A/B

1. Because the order of the shirts doesn't matter
2. *n* stands for the number of objects (8 choices of T-shirts); *r* stands for how many taken at a time (3)
3. ${}_8C_3 = \frac{8!}{3!(8-3)!} = \frac{8 \times 7 \times 6}{3 \times 2} = 56$
4. The formula for permutations gives the number of arrangements of 3 T-shirts in different orders. When buying T-shirts the order does not matter, so you have to eliminate the duplicate sets by dividing by *r*!, the number of ways 3 shirts can be arranged. (In other words, there are 6 ways to arrange 3 shirts, but it only counts as 1 set.)
5. 35
6. 45
7. There are 9 combinations that include the Ken Griffey, Jr. card, one with each of the other 9 cards. So the probability would be $\frac{9}{45}$, or $\frac{1}{5}$. Alternate explanation: Each pair contains 2 out of 10 cards, so the probability of picking a particular card is $\frac{2}{10}$, or $\frac{1}{5}$.
8. 55
9. $\frac{25 \times 24 \times 23}{3 \times 2} = 2300$
10. $\frac{276}{2300} = \frac{3}{25}$

LESSON 22-4

Practice and Problem Solving: A/B

1. No; a card can be both black and a 10.
2. $\frac{2}{52} = \frac{1}{26}$
3. Yes. $\frac{13}{40}$
4. $\frac{3}{8}$
5. $\frac{7}{8}$
6. $\frac{5}{8}$
7.

	Family Medicine	Not Family Medicine	Total
From US	160	110	270
Not From US	80	50	130
Total	240	160	400

8. $\frac{7}{8}$
9. $\frac{29}{40}$
10. $\frac{4}{5}$