Algebra 2 Bellwork Monday, May 18, 20125

1. There are 25 students in the class. The teacher wants the 8 worst-behaved students to sit in the front row, the other students can sit where they want. There are 10 seats in the front row. How many different seating charts could the teacher make up for these 8 students?

2. Upon returning from being absent the teacher is told that those 8 students need to be sent to the office, two at a time. How many different ways can the teacher send those 8 students to the office two at a time?

3. You are going on a long train trip. To help pass the time you are going to take some movies. On your shelf you have 5 comedies, 3 horror movies, and 5 action/adventure movies.

a) Find the number of ways can you select the following: 3 comedies, 1 horror, and 2 action/adventure.

b) You don't care which kind of movies you take because you like them all. How many ways can you take at least 10 movies?

Given a standard deck of cards (52 cards) find each probability as a fraction assuming that you take out one card at random.

4. P(King or Queen)

5. P(5 of clubs)

6. P(Heart and Face Card)

7. P(10 or a diamond)

8. P(Red 8)

Algebra 2 Bellwork Monday, May 18, 20125 Answers

1. There are 25 students in the class. The teacher wants the 8 worst-behaved students to sit in the front row, the other students can sit where they want. There are 10 seats in the front row. How many different seating charts could the teacher make up for these 8 students?

$_{10}P_8 =$ 1,814,400

2. Upon returning from being absent the teacher is told that those 8 students need to be sent to the office, two at a time. How many different ways can the teacher send those 8 students to the office two at a time?

$_8C_2 =$ 28

3. You are going on a long train trip. To help pass the time you are going to take some movies. On your shelf you have 5 comedies, 3 horror movies, and 5 action/adventure movies.

a) Find the number of ways can you select the following: 3 comedies, 1 horror, and 2 action/adventure.

$_5C_3 \cdot {}_3C_1 \cdot {}_5C_2 = 10 \cdot 3 \cdot 10 =$ 300

b) You don't care which kind of movies you take because you like them all. How many ways can you take at least 10 movies?

13 TOTAL MOVIES

$_{13}C_{10} + {}_{13}C_{11} + {}_{13}C_{12} + {}_{13}C_{13} =$ 378

286 + 78 + 13 + 1

Given a standard deck of cards (52 cards) find each probability as a fraction assuming that you take out one card at random.

4. P(King or Queen) = $\frac{8}{52}$

5. P(5 of clubs) = $\frac{1}{52}$

6. P(Heart and Face Card) = $\frac{3}{52}$

7. P(10 or a diamond) = $\frac{16}{52}$

8. P(Red 8) = $\frac{2}{52}$