| Review | Lessons | 10.1 – 10 | .3 Worl | ksheet |
|------------|---------|-----------|----------|--------|
| ILC VIC VV | Leggons | 10.1 | .5 11011 | 131166 |

Name: LEY

For the given configuration, determine how many different license plates are possible if (a) digits and letters can be repeated, and (b) digits and letters cannot be repeated.

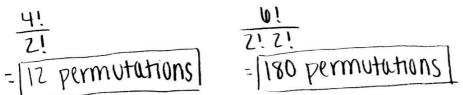
1.) 2 letters followed by 3 digits

- 2.) 3 digits followed by 3 letters
- a.) $\frac{26}{L} \cdot \frac{26}{L} \cdot \frac{10}{H} \cdot \frac{10}{H} \cdot \frac{10}{H}$ b.) $\frac{26}{L} \cdot \frac{25}{L} \cdot \frac{10}{H} \cdot \frac{9}{H} \cdot \frac{8}{H}$
- a.) 日·日·日·任·但·世·也 b.) 10 · 9 · 8 · 26 · 25 · 24

Find the number of distinguishable permutations of the letters in the word.

3.) AWAY

4.) LETTER



5.) TENNESSEE

Find the number of possible 5-card hands that contain the cards specified. The cards are taken from a standard 52-card deck.

6.) 3 aces and 2 kings

7.) 5 clubs

- 8.) at least 3 jacks 3 Jacks, 2 other cards

 OF 4 Jacks, 1 other card

 OF 2 Queens, 3 other cards

 OF 2 Queens, 3 other cards

1,712,304 + 778,320 + 103,776 =[2,594,400 hands]

Use the binomial theorem to write the binomial expansion.

 $10.1(2x-3)^{6} + (2x)^{5}(-3)^{1} + 15(2x)^{4}(-3)^{2} + 20(2x)^{3}(-3)^{3} + 15(2x)^{2}(-3)^{4} + (2x)^{1}(-3)^{5}$ $1(2x)^{6}(-3)^{6} + (2x)^{5}(-3)^{1} + 15(2x)^{4}(-3)^{2} + 20(2x)^{3}(-3)^{3} + 15(2x)^{2}(-3)^{4} + (2x)^{1}(-3)^{5}$

64x - 576 x 5 + 2160 x 4 - 4320x3 + 4860 x2 - 2916x + 729

$$\frac{11.)(3x+y)^{4}}{(3x)^{4}(y)^{6}+4(3x)^{3}(y)'+b(3x)^{2}(y)^{2}+4(3x)'(y)^{3}+1(3x)^{6}(y)^{4}}$$

$$81x^{4}+108x^{3}y+54x^{2}y^{2}+12xy^{3}+y^{4}$$

A card is randomly drawn from a standard deck of 52 cards. Find the probability of drawing the given card. Express your probabilities as simplified fractions.

12.) The queen of hearts



13.) An ace

$$\frac{4}{52} = \boxed{\frac{1}{13}}$$

14.) A diamond

$$\frac{13}{52} = \boxed{1}$$

15.) A red card

$$\frac{26}{52} = \boxed{\frac{1}{2}}$$

16.) A card other than a 10

$$\frac{48}{52} = \boxed{\frac{12}{13}}$$

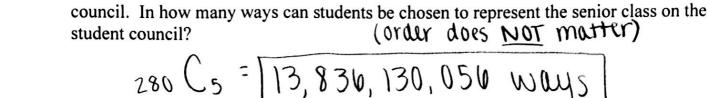
17.) The 6 of clubs

You randomly select a marble from a bag. The bag contains 8 black, 13 red, 7 white, and 12 blue marbles. Find the indicated odds.

18.) In favor of choosing blue

20.) Against choosing red

21.) Against choosing red or white



22.) Five representatives from a senior class of 280 students are to be chosen for the student

b.) If only 3 of the stories will be presented, how many possible ways can a lead story, a second story, and a closing story be presented? (Order matters!)