Candle Center - Infinite Precalculus Name_____

Permutations

Date_____ Period____

List all possible permutations. 1) ☺, ☼, ♥

2) ☺, ☼

3) 1, 2

4) A, B, C, taken two at a time

Evaluate each expression.

5) ${}_8P_4$

6) ${}_8P_5$

7) ${}_7P_5$

8) ${}_{10}P_3$

9) ${}_{10}P_5 - 5$

10) ${}_{10}P_3$

Find the number of unique permutations of the letters in each word.

11) EVERY

12) SOLO

13) BANDING

14) STRUTS

15) THERMOMETER

16) BILLIONAIRE

Critical thinking questions:

17) Name a season of the year, where if you rearrange the letters there are 360 unique permutations.

18) Simplify ${}_xP_{x-2}$

Candle Center - Infinite Precalculus Name_____

Permutations

Date_____ Period____

List all possible permutations.

1) ☺, ☼, ♥

☺☼♥ ☼☺♥ ♥☺☼
☺♥☼ ☼♥☺ ♥☼☺

2) ☺, ☼

☺☼ ☼☺

3) 1, 2

12 21

4) A, B, C, taken two at a time

AB BA CA
AC BC CB

Evaluate each expression.

5) ${}_8P_4$

1,680

6) ${}_8P_5$

6,720

7) ${}_7P_5$

2,520

8) ${}_{10}P_3$

720

9) ${}_{10}P_5 - 5$

30,235

10) ${}_{10}P_3$

720

Find the number of unique permutations of the letters in each word.

11) EVERY

60

12) SOLO

12

13) BANDING

2,520

14) STRUTS

180

15) THERMOMETER

831,600

16) BILLIONAIRE

3,326,400

Critical thinking questions:

17) Name a season of the year, where if you rearrange the letters there are 360 unique permutations.

SUMMER or AUTUMN

18) Simplify ${}_xP_{x-2}$

$\frac{x!}{2}$