Warm-UP

You want to rearrange the letters of "FURNACE" to make 4-letter "words". How many are possible if:

a) First and last letters are <u>Vowels</u>

$$\underset{\text{2-2}}{③} \times ⑤ \times \underset{\text{2-3}}{④} \times ② = 120$$

b) it must Contain the letter "F"

①
$$\overset{F}{①} \times ⑥ \times \overset{120}{⑤} \times ④$$
F @ Start

(or) ②
$$⑥ \times \overset{E}{①} \times ⑤ \times ④ \qquad 120$$
F in position 2

(or) ③
$$⑥ \times ⑤ \times \overset{F}{①} \times ④ \qquad 120$$
F in position 3

(or) ④
$$⑥ \times ⑤ \times ④ \times \overset{F}{①} \qquad 120$$
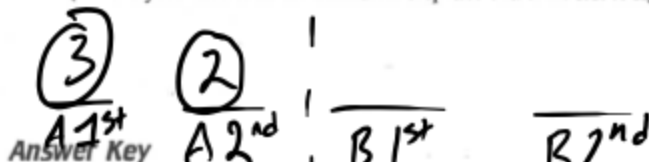F @ end

$$= 480$$

(#1-17)

D. 50 000

17. Sandra is taking an examination which consists of two parts, A and B, with the following instructions.

- Part A consists of three questions and the student must do two.
- Part B consists of four questions and the student must do two.
- Part A must be completed before starting Part B.
- At the end of the exam the student has to list the order in which she attempted the questions.

The number of different possible orders is _____ .

(Record your answer in the numerical response box from left to right.)

Answer Key

1. 12 2. 720 3. a) 49 b) 42 c) 7

4. He should have multiplied 7 by 4 to get 28. 5. a) 24360 b) 27000

6. a) 120 b) i) 40 ii) 40 iii) 80 iv) 20

7. a) 17 576 000 b) 15 600 000 c) 11 389 248

8. Diagram 1 → 15 Diagram 2 → 15 Diagram 3 → 11

9. a) 840 b) i) 24 ii) 240 iii) 360 iv) 480 v) 60

10. a) 6 b) 125 c) 54 d) 48

11. a) 120 b) 12 c) 24 d) 12 12. a) 840 b) 20 c) 40 d) 400

13. a) 720 b) 360 c) 1950