

# MATH-3012-D HW 01

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TOTAL POINTS

**28 / 30**

QUESTION 1

1 Q1 8 / 10

+ 10 pts Correct

✓ + 8 pts *Correct but without explanation*

+ 7 pts Some mistake

+ 4 pts partial credits

+ 0 pts No work

QUESTION 2

2 Q2 10 / 10

✓ + 10 pts *Correct*

+ 8 pts Correct without explanation

+ 7 pts Some mistake

+ 4 pts Partial credits

+ 0 pts No work

+ 0 pts Incorrect.

QUESTION 3

3 C 10 / 10

- 2 pts Missing questions.

✓ - 0 pts *Completed.*

- 1 pts Missing a question.

## Homework 1 Q1

3. (a)  $4 \times 12 \times 3 \times 2 = 288$

(b)  $4 \times 3 \times 2 = 24$

6. (a)  $30_p 8 = \frac{30!}{22!}$

(b)  $3! \times 28_p 6 = 6 \cdot \frac{28!}{22!}$

8. (a)  $12! -$

(b)  $4! \times 8! -$

(c)  $4! \times 5! \times 3! -$

10.  $15! \times \binom{14}{1} = 14 \times 15!$

↑  
putting 13 books into two groups

11. (a)  $1 + 1 + 4 \times 3 = 14$

(b)  $14 \times 14 = 196$

(c)  $196 - 14 = 182$

19. (a)  $7! = 5040$

(b)  $4! \times 3! = 144$

(c)  $5! \times 3! = 720$

(d)  $2! \times 4! \times 3! = 288$

1 Q1 8 / 10

+ 10 pts Correct

✓ + 8 pts *Correct but without explanation*

+ 7 pts Some mistake

+ 4 pts partial credits

+ 0 pts No work

## Homework 1 Q2

21. (a)  $12! / (3! \cdot 2! \cdot 2! \cdot 2!)$

(b)  $(2! \cdot 11!) / (3! \cdot 2! \cdot 2! \cdot 2!) = 11! / (3! \cdot 2! \cdot 2!)$

(c)  $6! / (3! \cdot 2!) \times 7! / (2! \cdot 2!) = (6! \cdot 7!) / (3! \cdot 2! \cdot 2! \cdot 2!)$

22.  $6! / 2! + 2 \times 6! / (2! \times 2!) = 6! = 720$

27. (a)  $10! / (2! \times 7!) = 360$

(b)  $10! / (2! \times 7!) = 360$

(c) Both results are the same as they both have individual variable changes that have the same values - 7, 2, 1 - providing a result of 360.

29. (a)  $12 \times 6 \times 8 = 576$

(b) The rule of product / the product rule

30. (a)  $26^3 = 17576$ ; same for 6 letters

(b)  $26 \times 25 \times 24 = 15600$ ; same for 6 letters

2 Q2 10 / 10

✓ + 10 pts Correct

+ 8 pts Correct without explanation

+ 7 pts Some mistake

+ 4 pts Partial credits

+ 0 pts No work

+ 0 pts Incorrect.

3 C 10 / 10

- 2 pts Missing questions.

✓ - 0 pts Completed.

- 1 pts Missing a question.