

# MATHEMATICS QUIZ

Dr T.Rajaretnam

St.Joseph's College(Autonomous)

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# 1 Round 1

- Questions

## Choose the Correct Answer

If  $A$  and  $B$  are any two sets ,then  $A - (A - B)$  is equal to

- (a)  $B$
- (b)  $A \cap B$
- (c)  $A$
- (d)  $A \cup B$



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## Choose the Correct Answer

If  $S = \{a, \{a\}\}$  , which one of the following is false?

(a)  $S \cup \mathcal{P}(S) = \mathcal{P}(S)$

(b)  $\{S\} \in \mathcal{P}(S)$

(c)  $\{S\} \subseteq \mathcal{P}(S)$

(d)  $S \in \mathcal{P}(S)$



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## Choose the Correct Answer

If  $A$  and  $B$  are any two sets , then  $A \times B = B \times A$   
iff

- (a)  $A = \phi$  or  $B = \phi$  or  $A = B$
- (b)  $A$  or  $B$  is equal to  $\phi$
- (c)  $A = B = \phi$  and  $A = B$
- (d)  $A = B$

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## Choose the Correct Answer

If  $A$  and  $B$  are any two sets , then  $n(A \triangle B)$  is equal to

- (a)  $n(A) + n(B)$
- (b)  $n(A) - n(B)$
- (c)  $n(A) + n(B) - n(A \cap B)$
- (d)  $n(A) + n(B) - 2n(A \cap B)$



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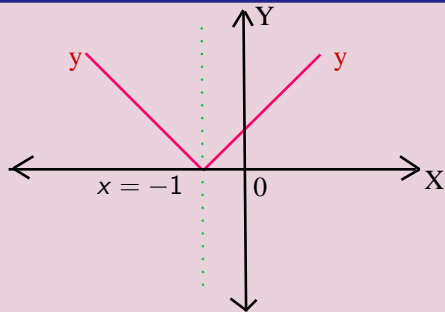
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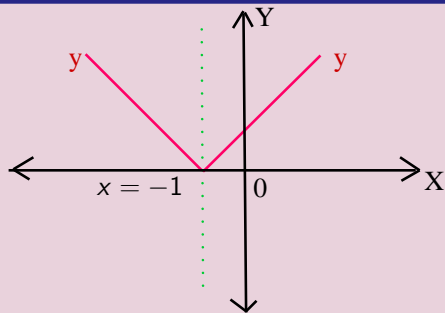
## Question



The equation of the function  $y$  is?

- (a)  $y = |x + 1|$
- (b)  $y = |x|$
- (c)  $y = |x - 1|$
- (d)  $y = \frac{|x + 1|}{x}$

## Question

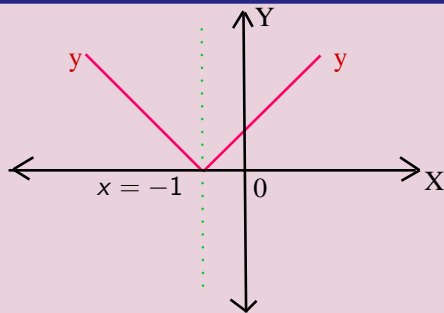


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## Choose the Correct Answer

The number of one-to-one functions from an  $n$  - element set to itself is

- (a)  $n^n$
- (b)  $2^n$
- (c)  $n!$
- (d)  $n$

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## Choose the Correct Answer

The number of functions from an  $m$  - element set to an  $n$  - element set is

(a)  $m^n$

(b)  $mn$

(c)  $n^2$

(d)  $n^m$

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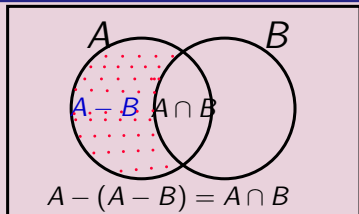
(c)  $n^2$

(d)  $n^m$

Answer



## Answer



▶ Return

# Answer

## Answer

$$S = \{a, \{a\}\}$$

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$$S = \{a, \{a\}\}$$

$$\mathcal{P}(S) = \{\phi, \{a\}, \{\{a\}\}, \{a, \{a\}\}\}$$

▶ Return

## Answer

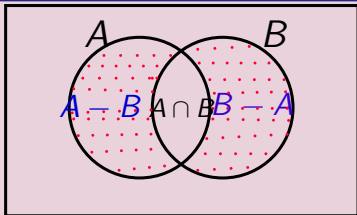
$$S = \{a, \{a\}\}$$

$$\mathcal{P}(S) = \{\phi, \{a\}, \{\{a\}\}, \{a, \{a\}\}\}$$

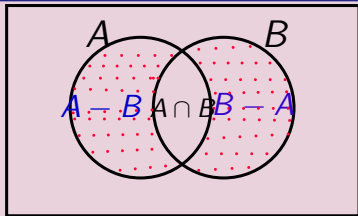
$$\{S\} = \{\{a, \{a\}\}\} \notin \mathcal{P}(S)$$

▶ Return

# Answer

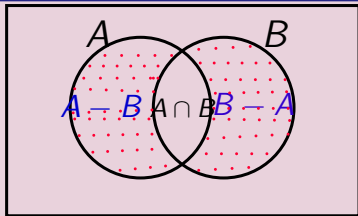


# Answer



$$A \triangle B = (A - B) \cup (B - A)$$

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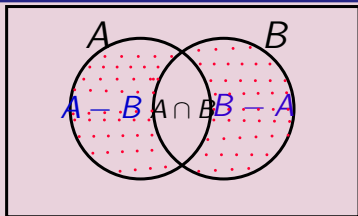


$$A \triangle B = (A - B) \cup (B - A)$$

$$n(A \triangle B) = n(A - B) + n(B - A)$$



# Answer

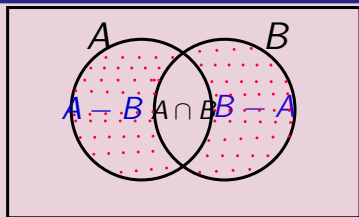


$$A \triangle B = (A - B) \cup (B - A)$$

$$n(A \triangle B) = n(A - B) + n(B - A)$$

$$= n(A) - n(A \cap B) + n(B) - n(A \cap B)$$

## Answer



$$A \triangle B = (A - B) \cup (B - A)$$

$$\begin{aligned}n(A \triangle B) &= n(A - B) + n(B - A) \\&= n(A) - n(A \cap B) + n(B) - n(A \cap B) \\&= n(A) + n(B) - 2n(A \cap B)\end{aligned}$$