

Graphing Sets and Performing Set Operations on Number Lines

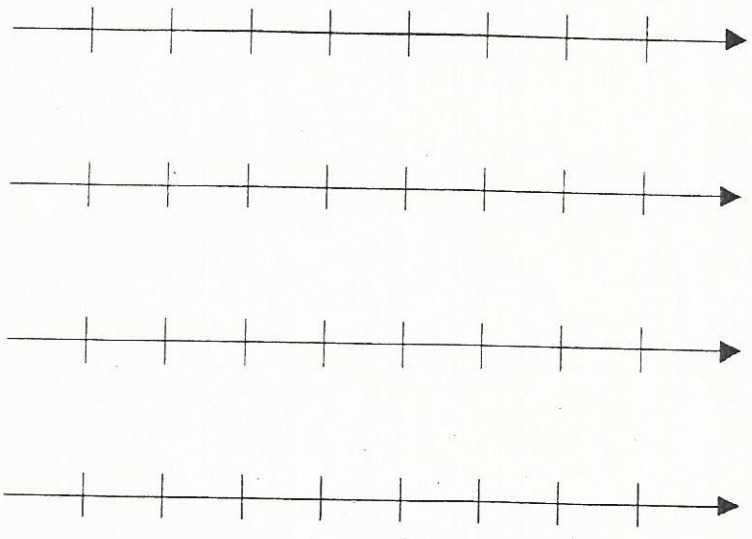
e.g. Given the intervals:

$$A = \{x \in \mathbb{R} \mid x \geq 6\}$$

$$B = \{x \in \mathbb{R} \mid 4 \leq x < 8\}$$

Perform the following set operations: $A' \setminus B$

Graph the detailed solution below.



Give your answer in interval form: _____

Give your answer in set-builder notation: _____

You try:

1. $A = \{x \in \mathbb{R} \mid x \geq 3\}$

$$B = \{x \in \mathbb{R} \mid 1 \leq x < 7\}$$

Perform the following set operations: $A' \setminus B$

Graph the detailed solution below.



Give your answer in interval form: _____

Give your answer in set-builder notation: _____

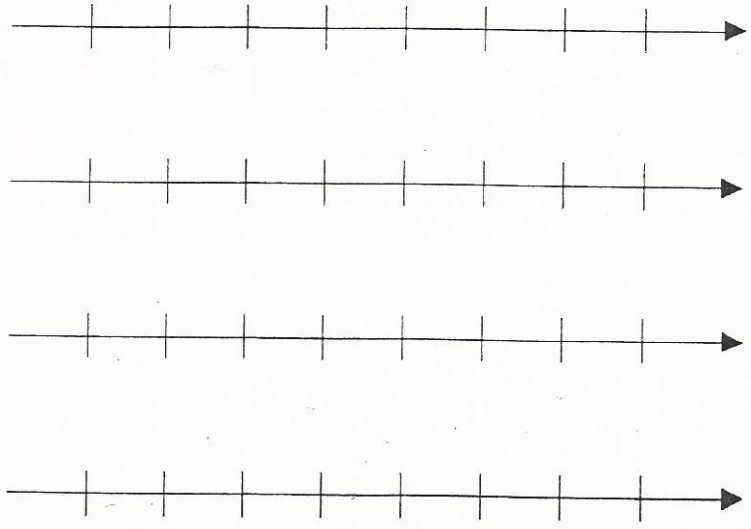
You try:

2. $A = \{x \in \mathbb{R} \mid x \geq 2\}$

$B = \{x \in \mathbb{R} \mid 0 \leq x < 4\}$

Perform the following set operations: $A' \setminus B$

Graph the detailed solution below.



Give your answer in interval form: _____

Give your answer in set-builder notation: _____

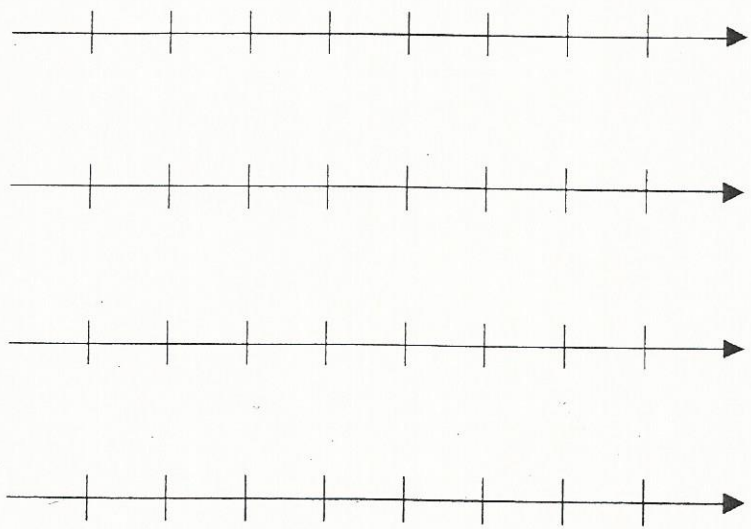
You try:

3. $A = \{x \in \mathbb{R} \mid -1 < x \leq 5\}$

$C = \{x \in \mathbb{R} \mid x \leq 3\}$

Perform the following set operations: $A \cap C'$

Graph the detailed solution below.



Give your answer in interval form: _____

Give your answer in set-builder notation: _____

You try:

4. $A = \{x \in \mathbb{R} \mid -3 < x \leq 4\}$

$C = \{x \in \mathbb{R} \mid x \leq 1\}$

Perform the following set operations: $A \cap C'$

Graph the detailed solution below.



Give your answer in interval form: _____

Give your answer in set-builder notation: _____

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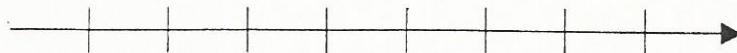
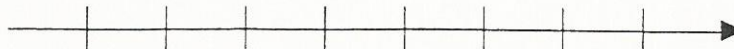
You try:

5. $A = \{x \in \mathbb{R} \mid -4 < x \leq 3\}$

$$C = \{x \in \mathbb{R} \mid x \leq 0\}$$

Perform the following set operations: $A \cap C'$

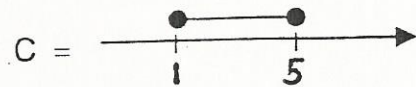
Graph the detailed solution below.



Give your answer in interval form: _____

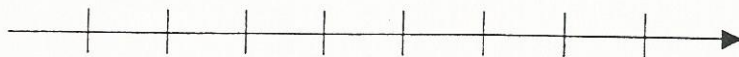
Give your answer in set-builder notation: _____

e.g. $A =]-1, 4]$ $B =]0, 3]$



$(A \cap B) \cup C$

Graph the detailed solution below.

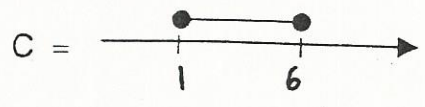


Give your answer in interval form: _____

Give your answer in set-builder notation: _____

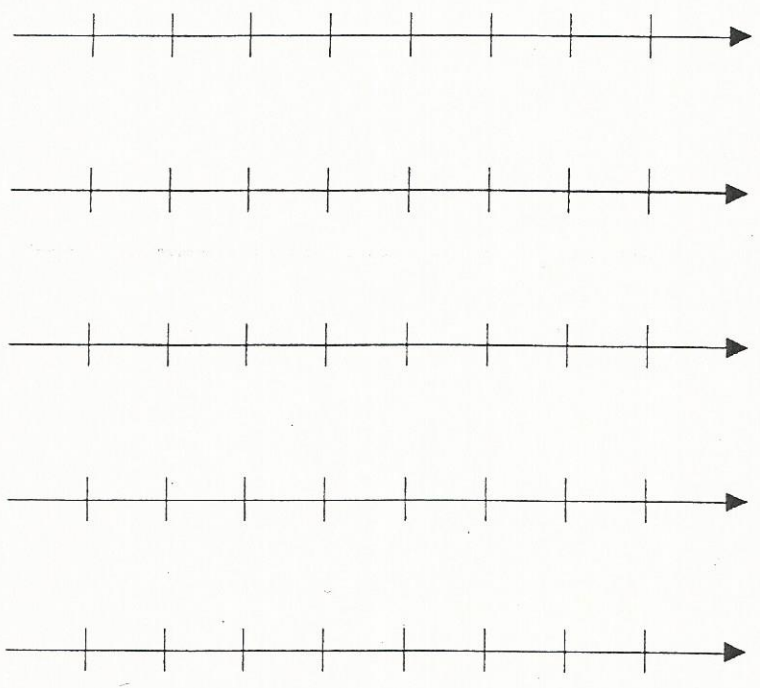
You try:

1. Given the intervals: $A =]-3, 5]$ $B =]0, 4]$ and



$$(A \cap B) \cup C$$

Graph the detailed solution below.

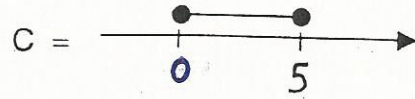


Give your answer in interval form: _____

Give your answer in set-builder notation: _____

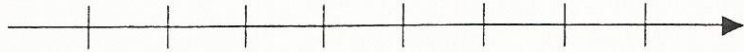
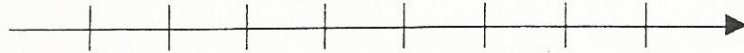
You try:

2. Given the intervals: $A =]-4, 2]$ $B =]-1, 1]$ and



$$(A \cap B) \cup C$$

Graph the detailed solution below.



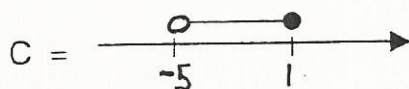
Give your answer in interval form: _____

Give your answer in set-builder notation: _____

You try:

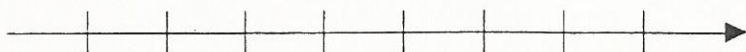
3. $A = -\infty, -3]$

$B = [-1, 4]$



Perform the following set operations: $(A \cup C) \setminus B$

Graph the detailed solution below.



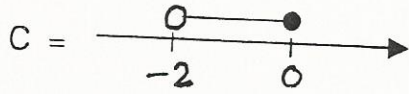
Give your answer in interval form: _____

Give your answer in set-builder notation: _____

You try:

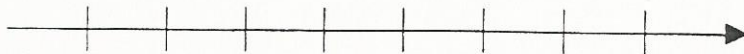
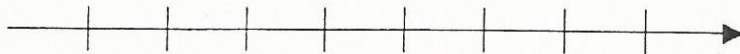
4. $A = (-\infty, -1]$

$B = [-2, 4]$



Perform the following set operations: $(A \cup C) \setminus B$

Graph the detailed solution below.



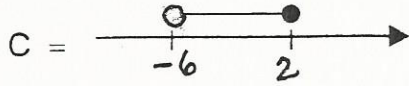
Give your answer in interval form: _____

Give your answer in set-builder notation: _____

You try:

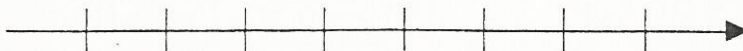
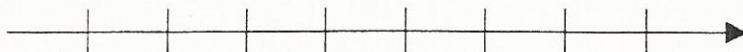
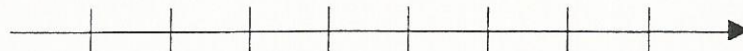
5. $A = -\infty, -4]$

$B = [-1, 3]$



Perform the following set operations: $(A \cup C) \setminus B$

Graph the detailed solution below.



Give your answer in interval form: _____

Give your answer in set-builder notation: _____