

S.CP.A.1: Set Theory 1a

- 1 Given: $M = \{\text{green, red, yellow, black}\}$

$$N = \{\text{blue, green, yellow}\}$$

Which set represents $M \cup N$?

- 1) $\{\text{yellow}\}$
- 2) $\{\text{green, yellow}\}$
- 3) $\{\text{blue, red, black}\}$
- 4) $\{\text{green, red, yellow, blue, black}\}$

- 2 Given: $A = \{2, 4, 5, 7, 8\}$

$$B = \{3, 5, 8, 9\}$$

What is $A \cup B$?

- 1) $\{5\}$
- 2) $\{5, 8\}$
- 3) $\{2, 3, 4, 7, 9\}$
- 4) $\{2, 3, 4, 5, 7, 8, 9\}$

- 3 Given: $A = \{3, 6, 9, 12, 15\}$

$$B = \{2, 4, 6, 8, 10, 12\}$$

What is the union of sets A and B ?

- 1) $\{6\}$
- 2) $\{6, 12\}$
- 3) $\{2, 3, 4, 8, 9, 10, 15\}$
- 4) $\{2, 3, 4, 6, 8, 9, 10, 12, 15\}$

- 4 If $A = \{1, 2, 3, 4, 5, 6, 7, 8\}$ and $B = \{2, 4, 6, 8, 10, 12\}$,
the intersection of sets A and B is

- 1) $\{10, 12\}$
- 2) $\{2, 4, 6, 8\}$
- 3) $\{1, 3, 5, 7\}$
- 4) $\{1, 2, 3, 4, 5, 6, 7, 8, 10, 12\}$

- 5 If $A = \{1, 2, 3, 4, 5, 6, 7, 8\}$ and $B = \{2, 4, 6, 8, 10, 12\}$,
then the intersection of these two sets is

- 1) $\{10, 12\}$
- 2) $\{1, 3, 5, 7\}$
- 3) $\{2, 4, 6, 8\}$
- 4) $\{1, 2, 3, 4, 5, 6, 7, 8, 10, 12\}$

- 6 Given:

$$\text{Set } A = \{(-2, -1), (-1, 0), (1, 8)\}$$

$$\text{Set } B = \{(-3, -4), (-2, -1), (-1, 2), (1, 8)\}$$

What is the intersection of sets A and B ?

- 1) $\{(1, 8)\}$
- 2) $\{(-2, -1)\}$
- 3) $\{(-2, -1), (1, 8)\}$
- 4) $\{(-3, -4), (-2, -1), (-1, 2), (-1, 0), (1, 8)\}$

- 7 Given: $R = \{1, 2, 3, 4\}$

$$A = \{0, 2, 4, 6\}$$

$$P = \{1, 3, 5, 7\}$$

What is $R \cap P$?

- 1) $\{0, 1, 2, 3, 4, 5, 6, 7\}$
- 2) $\{1, 2, 3, 4, 5, 7\}$
- 3) $\{1, 3\}$
- 4) $\{2, 4\}$

- 8 Given: $Q = \{0, 2, 4, 6\}$

$$W = \{0, 1, 2, 3\}$$

$$Z = \{1, 2, 3, 4\}$$

What is the intersection of sets Q , W , and Z ?

- 1) $\{2\}$
- 2) $\{0, 2\}$
- 3) $\{1, 2, 3\}$
- 4) $\{0, 1, 2, 3, 4, 6\}$

- 9 Given: $X = \{1, 2, 3, 4\}$

$$Y = \{2, 3, 4, 5\}$$

$$Z = \{3, 4, 5, 6\}$$

What is the intersection of sets X , Y , and Z ?

- 1) $\{3, 4\}$
- 2) $\{2, 3, 4\}$
- 3) $\{3, 4, 5\}$
- 4) $\{1, 2, 3, 4, 5, 6\}$

- 10 Given: $A = \{0, 1, 2, 3, 4\}$
 $B = \{0, 2, 3, 5, 7\}$
 $C = \{0, 2, 4, 6, 8\}$

What is the intersection of sets A , B , and C ?

- 1) $\{0\}$
- 2) $\{0, 2\}$
- 3) $\{0, 2, 3, 4\}$
- 4) $\{0, 1, 2, 3, 4, 5, 6, 7, 8\}$

- 11 Given the following:

$$A = \{\text{Charles, Kyle, Nakim, Jade}\}$$

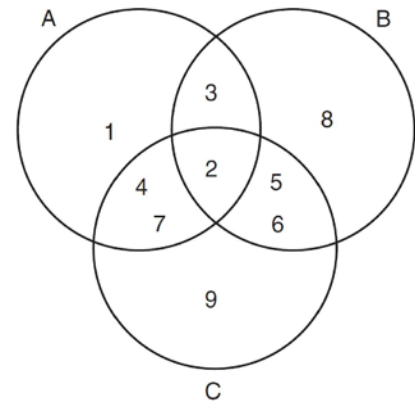
$$B = \{\text{Charles, Jade, Alicia, Kyle}\}$$

$$C = \{\text{Kyle, Nakim, Jade, Dylan}\}$$

What is the intersection of sets A , B , and C ?

- 1) $\{\text{Kyle, Nakim}\}$
 - 2) $\{\text{Charles, Kyle}\}$
 - 3) $\{\text{Jade, Nakim}\}$
 - 4) $\{\text{Jade, Kyle}\}$
- 12 If $A = \{0, 1, 3, 4, 6, 7\}$, $B = \{0, 2, 3, 5, 6\}$, and $C = \{0, 1, 4, 6, 7\}$, then $A \cap B \cap C$ is
- 1) $\{0, 1, 2, 3, 4, 5, 6, 7\}$
 - 2) $\{0, 3, 6\}$
 - 3) $\{0, 6\}$
 - 4) $\{0\}$

- 13 Which set represents the intersection of sets A , B , and C shown in the diagram below?



- 1) $\{3, 4, 5, 6, 7\}$
- 2) $\{2\}$
- 3) $\{2, 3, 4, 5, 6, 7\}$
- 4) $\{1, 2, 3, 4, 5, 6, 7, 8, 9\}$

- 14 Given: $A = \{1, 3, 5, 7, 9\}$

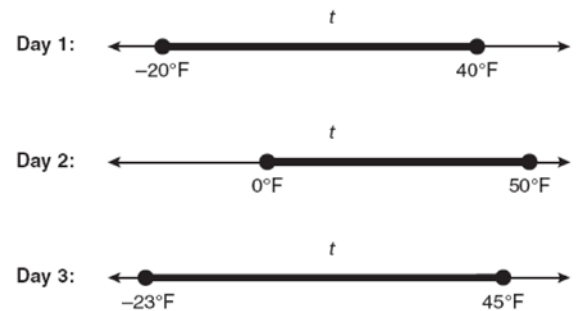
$$B = \{2, 4, 6, 8, 10\}$$

$$C = \{2, 3, 5, 7\}$$

$$D = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$$

What statement is *false*?

- 1) $A \cup B \cup C = D$
 - 2) $A \cap B \cap C = \{\}$
 - 3) $A \cup C = \{1, 2, 3, 5, 7\}$
 - 4) $A \cap C = \{3, 5, 7\}$
- 15 Maureen tracks the range of outdoor temperatures over three days. She records the following information.



Express the intersection of the three sets as an inequality in terms of temperature, t .

S.CP.A.1: Set Theory 1a**Answer Section**

- 1 ANS: 4 REF: 061426ia
2 ANS: 4 REF: 011225ia
3 ANS: 4 REF: 061123ia
4 ANS: 2 REF: 011501ia
5 ANS: 3 REF: 061501ia
6 ANS: 3 REF: fall0710ia
7 ANS: 3 REF: 061324ia
8 ANS: 1 REF: 011004ia
9 ANS: 1 REF: 011101ia
10 ANS: 2 REF: 061604ia
11 ANS: 4 REF: 081408ia
12 ANS: 3 REF: 061208ia
13 ANS: 2 REF: 081003ia

14 ANS: 3
 $A \cup C = \{1, 2, 3, 5, 7, 9\}$

REF: 081221ia

15 ANS:
 $0 \leq t \leq 40$

REF: 060833ia