S.CP.A.1: Set Theory 1

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:

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

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

Name: _____

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:

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

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

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

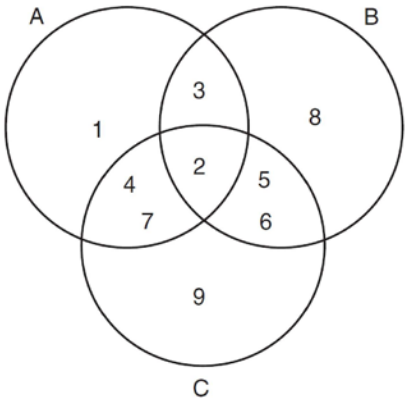
What is the intersection of sets A, B, and C?

1) {Kyle, Nakim}
2) {Charles, Kyle}
3) {Jade, Nakim}
4) {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: $A = \{1,3,5,7,9\}$

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

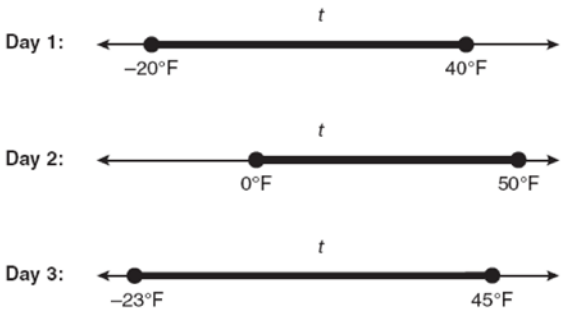
$C = \{2,3,5,7\}$

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

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.

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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:
$0 \le t \le 40$

REF: 060833ia