

Chapter 2 Exam v1

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Provide an appropriate response.

1) If $56_{\text{ten}} = b_{\text{five}}$ then what is b ?

1) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Convert the base-ten number to a number in the indicated base.

2) $2,874$ to base eight

A) 4527_{eight}

B) 5472_{eight}

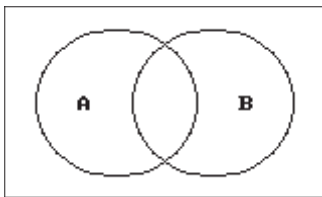
C) 5427_{eight}

D) 4572_{eight}

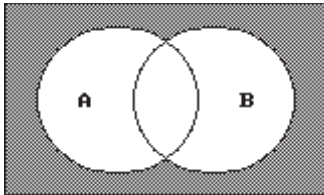
2) _____

Shade the portion of the diagram that represents the given set.

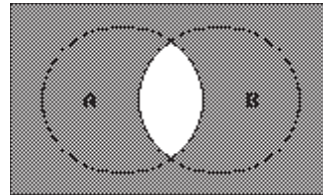
3) $\overline{A \cup B}$



A)



B)



3) _____

Solve the problem.

4) Pat withdrew \$495 from an ATM. If the ATM gives \$100, \$20, and \$5 bills such that the total number of bills is the least, then how many of each type of bill did Pat get?

A) 4 \$100-bills, 4 \$20-bills, and 3 \$5-bills

B) 4 \$100-bills, 3 \$20-bills, and 7 \$5-bills

C) 5 \$100-bills, zero \$20-bills, and 3 \$5-bills

D) 3 \$100-bills, 9 \$20-bills, and 3 \$5-bills

4) _____

Convert the following.

5) 45 months to years and months

A) 3 yr and 10 mo

B) 4 yr and 9 mo

C) 5 yr and 9 mo

D) 3 yr and 9 mo

5) _____

Rewrite the statement using mathematical symbols.

6) The set consisting of the elements k and y is a proper subset of $\{k, b, e, y, u\}$.

A) $\{k, y\} \sim \{k, b, e, y, u\}$

B) $\{k, y\} \in \{k, b, e, y, u\}$

C) $\{k, y\} \subseteq \{k, b, e, y, u\}$

D) $\{k, y\} \subset \{k, b, e, y, u\}$

6) _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Provide an appropriate response.

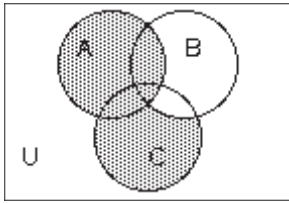
7) A is the set of all even natural numbers, and B is the set of all odd natural numbers. Describe a universal set for A and B . Also, with respect to this universal set, give a relationship between A and B .

7) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Use set notation to identify the shaded region.

8)



8) _____

A) $\bar{B} \cap A \cup C$

B) $C \cap \bar{B} \cup A$

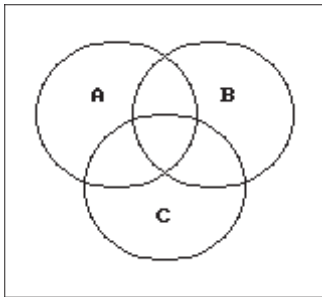
C) $A \cup C$

D) $A \cup C - B$

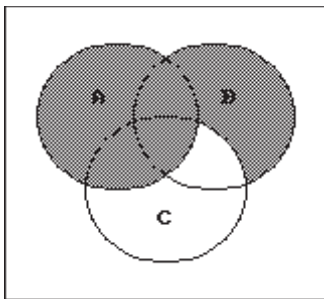
Shade the portion of the diagram that represents the given set.

9) $A \cup (B \cap \bar{C})$

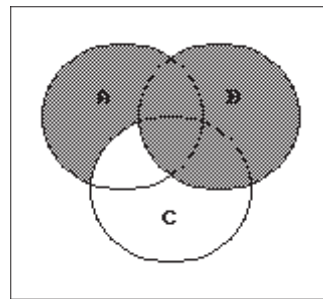
9) _____



A)



B)



For the given Hindu-Arabic numeral, write an equivalent numeral in the indicated system.

10) 3063; Egyptian

10) _____

A)

B)

C)

D)

Write the numeral in base ten.

11) 555_{six}

11) _____

A) 1000

B) 82

C) 215

D) 110

For the following, write an equivalent numeral in the Hindu-Arabic system.

12)



12) _____

A) 79,378

B) 83,479

C) 88,360

D) 88,160

Write the numeral in base ten.

13) 25_{eight}

13) _____

A) 21

B) 165

C) 33

D) 133

Find $n(A)$ for the set A.

14) $A = \{x | x \text{ is a month in the year}\}$

14) _____

A) $n(A) = 24$

B) $n(A) = 12$

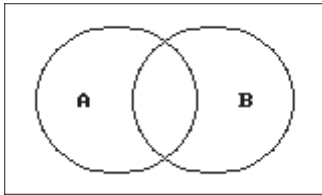
C) $n(A) = 1$

D) $n(A) = 52$

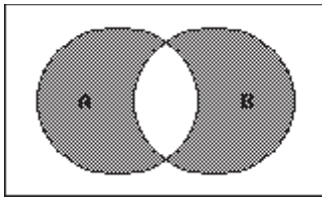
Shade the portion of the diagram that represents the given set.

15) $(A \cup B) \cap \overline{(A \cap B)}$

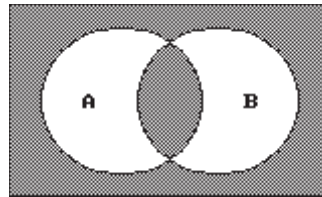
15) _____



A)



B)



Write the following as a base-ten numeral.

16) $8 \cdot 10^2 + 3$

16) _____

A) 703

B) 800

C) 803

D) None of these

Determine whether the following is true or false.

17) $\overline{A \cup B} = \overline{A} \cap \overline{B}$

17) _____

A) True

B) False

Write the place value of the underlined numeral.

18) 144,253

18) _____

A) Thousands

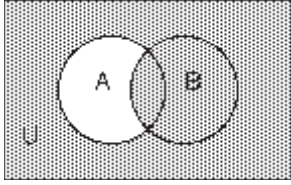
B) Units

C) Tens

D) Hundreds

Use set notation to identify the shaded region.

19)



A) $\overline{A \cup B}$

B) $\overline{A} \cap B$

C) $\overline{A \cap B}$

D) $B - A$

19) _____

Rewrite the statement using mathematical symbols.

20) a is an element of $\{k, a, d, z, t\}$.

A) $a \subset \{k, a, d, z, t\}$

C) $\{a\} \subseteq \{k, a, d, z, t\}$

B) $a \in \{k, a, d, z, t\}$

D) $\{a\} \in \{k, a, d, z, t\}$

20) _____