

# Chapter 1 Exam v1

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

**Determine the validity of the argument.**

- 1) All businessmen wear suits. 1) \_\_\_\_\_  
Aaron wears suits.  
Therefore Aaron is a businessman.  
A) Valid B) Not valid
- 2) Not all cars are considered sporty. 2) \_\_\_\_\_  
Not all cars are safe at high speeds.  
Therefore sports cars are safe at high speeds.  
A) Valid B) Not valid

**Letting r stand for "The food is good," p stand for "I eat too much," and q stand for "I'll exercise," write the following in symbolic form.**

- 3) If I eat too much, then I'll exercise. 3) \_\_\_\_\_  
A)  $r \rightarrow p$  B)  $p \rightarrow q$  C)  $q \rightarrow p$  D)  $p \vee q$
- 4) If the food is not good, I won't eat too much. 4) \_\_\_\_\_  
A)  $\sim p \rightarrow \sim r$  B)  $\sim r \rightarrow \sim p$  C)  $r \rightarrow \sim p$  D)  $\sim(r \rightarrow p)$
- 5) If the food is good, then I eat too much. 5) \_\_\_\_\_  
A)  $p \rightarrow r$  B)  $r \rightarrow p$  C)  $p \rightarrow q$  D)  $r \wedge p$
- 6) If the food is good or if I eat too much, I'll exercise. 6) \_\_\_\_\_  
A)  $(r \vee p) \rightarrow q$  B)  $(r \wedge p) \rightarrow q$  C)  $r \rightarrow (p \vee q)$  D)  $r \rightarrow p \rightarrow q$

**Solve the problem.**

- 7) How many different ways can you make change for a 50-cent coin using quarters, dimes, and nickels? 7) \_\_\_\_\_  
A) 9 B) 8 C) 10 D) 11
- 8) A drink and a sandwich together cost \$4.75. The sandwich costs \$1.25 more than the drink. How much does the sandwich cost? 8) \_\_\_\_\_  
A) \$3.00 B) \$1.75 C) \$4.25 D) \$0.50
- 9) How many different amounts of money can you pay if you use five coins including quarters and dimes? 9) \_\_\_\_\_  
A) 7 B) 5 C) 4 D) 6
- 10) How many different ways can you make change for a 25-cent coin using nickels and pennies? 10) \_\_\_\_\_  
A) 4 B) 6 C) 5 D) 7

**Find the number of terms in the sequence or the sum of the sequence as requested.**

- 11) Find the sum of the following arithmetic sequence. 11) \_\_\_\_\_  
 $10 + 11 + 12 + \dots + 500$   
A) 124,714 B) 125,250 C) 125,214 D) 125,205

- 12) Find the number of terms in the following arithmetic sequence. 12) \_\_\_\_\_  
 3, 9, 15, 21, . . . , 129  
 A) 19                                      B) 25                                      C) 16                                      D) 22
- 13) How many terms are there in the sequence 5, 10, 20, 40, 80, . . . , 20,480? 13) \_\_\_\_\_  
 A) 14                                      B) 12                                      C) 11                                      D) 13
- 14) Find the number of terms in the following arithmetic sequence. 14) \_\_\_\_\_  
 1, 5, 9, 13, . . . , 117  
 A) 5                                      B) 30                                      C) 26                                      D) 27
- 15) Find the following sum:  $6 + 20 + 34 + \dots + 986$  15) \_\_\_\_\_  
 A) 35,216                                      B) 35,204                                      C) 35,228                                      D) 35,222
- 16) Find the number of terms in the following arithmetic sequence. 16) \_\_\_\_\_  
 8, 11, 14, 17, . . . , 89  
 A) 28                                      B) 30                                      C) 81                                      D) 84

**Write in if-then form.**

- 17) An even number is divisible by two. 17) \_\_\_\_\_  
 A) If a number is even, then it is divisible by two.  
 B) If a number isn't even, then it is not divisible by two.  
 C) If a number isn't divisible by two, then it isn't even.  
 D) If a number is divisible by two, then it is odd.

**Complete the magic (addition) square.**

- 18) Use each number 47, 48, 49, 50, 51, 52, 53, 54, and 55 once. 18) \_\_\_\_\_

48		52
		47
50	49	

A)

48	53	52
54	51	47
50	49	55

B)

48	54	52
55	53	47
50	49	51

C)

48	53	52
55	51	47
50	49	54

D)

48	54	52
55	51	47
50	49	53

19) Use each number 26, 27, 28, 29, 30, 31, 32, 33, and 34 once.

19) \_\_\_\_\_

31		
	30	28
27	34	

A)

31	26	33
32	30	28
27	34	29

B)

31	29	32
33	30	28
27	34	26

C)

31	29	33
32	30	28
27	34	26

D)

31	26	32
33	30	28
27	34	29

**Find the requested term in the sequence.**

20) The 15th term in  $6, 18, 54, 18 \cdot 3^2, 18 \cdot 3^3, \dots$

20) \_\_\_\_\_

A)  $18 \cdot 3^{14}$

B)  $18 \cdot 3^{17}$

C)  $18 \cdot 3^{13}$

D)  $18 \cdot 3^{15}$