

Chapter 3 Exam v1

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

Decide whether or not the set is closed under multiplication.

- 1) $\{1, 2, 3, 4, \dots, 40\}$
A) Closed

B) Not closed

1) _____

Estimate the answer to the problem.

- 2) A mobile library has 1029 books in its collection. If there are 21 shelves in the library, then how many books, on average, are stacked on each shelf?
A) 60 B) 55 C) 46 D) 50

2) _____

Find the solution.

- 3) $(x - 7) \div 5 = 9$
A) 315

B) 52

C) 38

D) 80

3) _____

Estimate by rounding.

- 4)
353
234
703
795
+ 664

A) 2750

B) 2700

C) 2749

D) 2800

4) _____

Multiply using the method indicated.

- 5) 824×84 ; Russian peasant algorithm
A) 69,206 B) 69,216

C) 69,226

D) 69,316

5) _____

Round the number to the place value indicated.

- 6) $\overline{18,808,352}$
A) 18,900,000

B) 18,808,000

C) 18,000,000

D) 19,000,000

6) _____

Decide whether or not the set is closed under addition.

- 7) $\{n \in \mathbb{N}: n \geq 53\}$
A) Not closed

B) Closed

7) _____

Estimate the answer to the problem.

- 8) James' drive from home to work is 32 miles one way. If in a month he goes to work 19 days, then how many miles does he drive going from home to work and back in one month?
A) 1200 B) 900 C) 1500 D) 1750

8) _____

Decide whether or not the set is closed under addition.

- 9) $\{n \in \mathbb{N}: n \leq 27\}$
A) Not closed

B) Closed

9) _____

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

Provide an appropriate response.

- 10) Use the associative and commutative properties of addition to simplify $a + (b + 2a)$, where a and b are whole numbers and $a \neq b$. 10) _____

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

Estimate by rounding.

- 11) _____
- $$\begin{array}{r} 43 \\ - 18 \\ \hline \end{array}$$

A) 30 B) 25 C) 60 D) 20

Rewrite the subtraction problem as an equivalent addition problem.

- 12) $x - 55 = 77$ 12) _____
- A) $x + 77 = 55$ B) $x - 77 = 55$ C) $x = 77 + 55$ D) $x + 55 = 77$

Rewrite the problem as a multiplication problem.

- 13) $476 \div m = 7$ 13) _____
- A) $476 \cdot m = 7$ B) $m = 7 \div 476$ C) $476 = 7 \cdot m$ D) $476 \cdot 7 = m$

Rewrite the subtraction problem as an equivalent addition problem.

- 14) $85 - x = 51$ 14) _____
- A) $x = 85 + 51$ B) $x + 51 = 85$ C) $x - 85 = 51$ D) $85 + x = 51$

Provide an appropriate response.

- 15) Jana has 18 stuffed animals. Shawna has 13 stuffed animals. Write a number sentence showing how many more stuffed animals Jana has than Shawna. 15) _____
- A) $31 - 13 = 18$ B) $18 - 13 = 5$ C) $31 - 18 = 13$ D) $18 + 13 = 31$

Find the missing numbers.

- 16) _____ 16) _____
- $$\begin{array}{r} (a) \quad 4 \quad (b) \\ - \quad 3 \quad (c) \quad 0 \\ \hline 4 \quad 8 \quad 3 \end{array}$$

A) $(a) = 7, (b) = 2, (c) = 5$ B) $(a) = 8, (b) = 3, (c) = 6$
C) $(a) = 9, (b) = 4, (c) = 7$ D) $(a) = 8, (b) = 3, (c) = 5$

Round the number to the place value indicated.

- 17) $\overline{62,003}$ 17) _____
- A) 62,000 B) 62,010 C) 63,000 D) 62,100

Rewrite the problem as a multiplication problem.

- 18) $70 \div 7 = x$ 18) _____
- A) $10 \cdot 7 = x$ B) $70 = x \cdot 7$ C) $70 \div x = 7$ D) $70 \cdot 7 = x$

Find the missing numbers.

19)

$$\begin{array}{r} \text{(a)} \quad 5 \quad 4 \quad 8 \\ \quad \quad 3 \quad \text{(b)} \quad 2 \\ + \quad 4 \quad 5 \quad 8 \quad \text{(c)} \\ \hline \quad 7 \quad \text{(d)} \quad 0 \quad 5 \end{array}$$

- A) (a) = 2, (b) = 7, (c) = 5, (d) = 5
C) (a) = 3, (b) = 8, (c) = 6, (d) = 6

- B) (a) = 2, (b) = 6, (c) = 5, (d) = 6
D) (a) = 1, (b) = 6, (c) = 4, (d) = 4

19) _____

Simplify the following. Leave answer as a power.

20) $9 \cdot 23^{82} + 2 \cdot 23^{82}$

A) $11 \cdot 23^{82}$

B) $11 \cdot 23^{83}$

C) $23 \cdot 11^{82}$

D) $12 \cdot 23^{82}$

20) _____