Ch.1 Mid Unit Quiz - PRACTICE
Divisibility Rules, Intro to Algebra (Remember that there are NO calculators allowed)

Multiple Choice
Identify the choice that best completes the statement or answers the question.

_____ 1. Which number is divisible by 2?
75, 45, 46, 49
   a. 75   b. 45   c. 49   d. 46

_____ 2. Which number is divisible by 4?
34, 51, 68, 38
   a. 68   b. 34   c. 51   d. 38

_____ 3. Which number is divisible by 2 but **not** by 4?
92, 115, 138, 184
   a. 184   b. 138   c. 92   d. 115

_____ 4. Which number is divisible by 9?
324 581, 324 664, 324 747, 324 867
   a. 324 664   b. 324 867   c. 324 581   d. 324 747

_____ 5. Which number is divisible by 3 **and** by 5?
378, 380, 375, 385
   a. 378   b. 385   c. 380   d. 375

_____ 6. Use the divisibility rules to find all the factors of 102.
   a. 2, 3, 6, 17, 34, 51   c. 1, 2, 3, 6, 17, 34, 51, 102
   b. 1, 2, 3, 6, 17, 102   d. 1, 2, 3, 102

_____ 7. What is the least number that could replace ☐ to make the number 36☐5 divisible by 9?
   a. 14   b. 5   c. 9   d. 4

_____ 8. Identify the numerical coefficient in the algebraic expression $12 + 5x$.
   a. 12   b. 5   c. $5x$ d. x

_____ 9. Identify the constant term in the algebraic expression $13 + 3x$.
   a. $3x$ b. 13   c. 16   d. 3

_____ 10. Write an algebraic expression for the sum of m and 4.
   a. $m - 4$ b. $4m$ c. $m + 4$ d. $\dfrac{m}{4}$

_____ 11. Write an algebraic expression for a number decreased by 15.
   a. $\dfrac{15}{n}$ b. $\dfrac{n}{15}$ c. $n - 15$ d. $15 - n$

_____ 12. Evaluate the expression by replacing x with 2.
$x + 11$
   a. $x + 2$ b. 9   c. 22   d. 13

_____ 13. Evaluate the expression by replacing c with 5.

$$\frac{7c + 15}{c}$$

a. 14   b. 28   c. 4   d. 10

____ 14. The cost in dollars of a school banquet is $62 + 11n$, where n is the number of people attending. What is the cost for 77 people?

a. $785   b. $847   c. $150   d. $909

____ 15. If n represents any term number, write a relation for the term.

Term Number		1	2	3	4	5	6
Term		3	6	9	12	15	18

a. $2n$ b. $n + 3$ c. $3n$ d. $2n + 3$

____ 16. There are n students in a class. Write a relation for the total number of pencils if each student is given 7 pencils.

a. $7n + 7$ b. $7n$ c. $\frac{n}{7}$ d. $n + 7$

____ 17. There are n students in a class. Write a relation for the number of song books if each pair of students share a song book.

a. $n - 2$ b. $\frac{n}{2}$ c. $n + 2$ d. $2n$

____ 18. There are n players on a sports team. Each player is to get 4 pairs of sox and 7 pairs are kept in reserve fot the whole team. Write a relation for the number of pairs of sox needed.

a. $28n$ b. $4n + 7$ c. $7n + 4$ d. $11n$

____ 19. Complete the table.

Input x	1	2	3	4	5
Output $6x$					

a.

Input x	1	2	3	4	5
Output $6x$	6	7	8	9	10

b.

Input x	1	2	3	4	5
Output $6x$	12	18	24	30	36

c.

Input x	1	2	3	4	5
Output $6x$	7	8	9	10	11

d.

Input x	1	2	3	4	5
Output $6x$	6	12	18	24	30

Short Answer

20. What is the least digit you would add to 44 658 to make the number divisible by 5?

21. Copy the diagram.

Divisible by 3   Divisible by 2
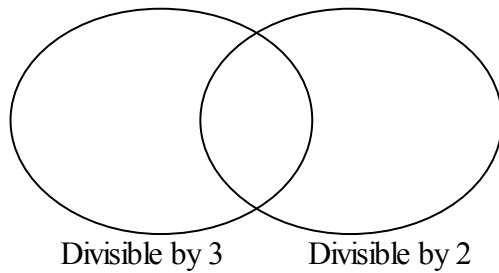
Place the numbers in the Venn diagram.
33, 12, 20, 14, 27, 18, 26, 39

Which numbers were placed in the overlapping region?

22. A student earns $6 for each hour she works.
    a) Write a relation for her earnings for *n* hours of work.
    b) How much will she earn if she works for 30 hours?

23. Copy and complete the table.

Input p	1	2	3	4	5
Output $5p$					

Ch.1 Mid Unit Quiz   Divisibility Rules, Intro to Algebra NB: NO Calculators allowed
Answer Section

MULTIPLE CHOICE

1. ANS: D   PTS: 1   DIF: Easy   REF: 1.1 Patterns in Division
    LOC: 7.N1   TOP: Number   KEY: Conceptual Understanding
2. ANS: A   PTS: 1   DIF: Easy   REF: 1.1 Patterns in Division
    LOC: 7.N1   TOP: Number   KEY: Conceptual Understanding
3. ANS: B   PTS: 1   DIF: Moderate   REF: 1.1 Patterns in Division
    LOC: 7.N1   TOP: Number   KEY: Conceptual Understanding
4. ANS: D   PTS: 1   DIF: Easy   REF: 1.2 More Patterns in Division
    LOC: 7.N1   TOP: Number   KEY: Procedural Knowledge
5. ANS: D   PTS: 1   DIF: Moderate   REF: 1.2 More Patterns in Division
    LOC: 7.N1   TOP: Number   KEY: Conceptual Understanding
6. ANS: C   PTS: 1   DIF: Moderate   REF: 1.2 More Patterns in Division
    LOC: 7.N1   TOP: Number   KEY: Conceptual Understanding
7. ANS: D   PTS: 1   DIF: Moderate   REF: 1.2 More Patterns in Division
    LOC: 7.N1   TOP: Number   KEY: Problem-solving Skills
8. ANS: B   PTS: 1   DIF: Easy   REF: 1.3 Algebraic Expressions
    LOC: 7.PR4   TOP: Patterns and Relations (Variables and Equations)
    KEY: Conceptual Understanding
9. ANS: B   PTS: 1   DIF: Easy   REF: 1.3 Algebraic Expressions
    LOC: 7.PR4   TOP: Patterns and Relations (Variables and Equations)
    KEY: Conceptual Understanding
10. ANS: C   PTS: 1   DIF: Easy   REF: 1.3 Algebraic Expressions
    LOC: 7.PR4   TOP: Patterns and Relations (Variables and Equations)
    KEY: Procedural Knowledge
11. ANS: C   PTS: 1   DIF: Easy   REF: 1.3 Algebraic Expressions
    LOC: 7.PR4   TOP: Patterns and Relations (Variables and Equations)
    KEY: Procedural Knowledge
12. ANS: D   PTS: 1   DIF: Easy   REF: 1.3 Algebraic Expressions
    LOC: 7.PR5   TOP: Patterns and Relations (Variables and Equations)
    KEY: Procedural Knowledge
13. ANS: D   PTS: 1   DIF: Moderate   REF: 1.3 Algebraic Expressions
    LOC: 7.PR5   TOP: Patterns and Relations (Variables and Equations)
    KEY: Procedural Knowledge
14. ANS: D   PTS: 1   DIF: Moderate   REF: 1.3 Algebraic Expressions
    LOC: 7.PR5   TOP: Patterns and Relations (Variables and Equations)
    KEY: Problem-solving Skills
15. ANS: C   PTS: 1   DIF: Easy   REF: 1.4 Relationships in Patterns
    LOC: 7.PR1   TOP: Patterns and Relations (Patterns)   KEY: Procedural Knowledge
16. ANS: B   PTS: 1   DIF: Easy   REF: 1.4 Relationships in Patterns
    LOC: 7.PR1   TOP: Patterns and Relations (Patterns)   KEY: Conceptual Understanding
17. ANS: B   PTS: 1   DIF: Moderate   REF: 1.4 Relationships in Patterns
    LOC: 7.PR1   TOP: Patterns and Relations (Patterns)   KEY: Conceptual Understanding
18. ANS: B   PTS: 1   DIF: Moderate   REF: 1.4 Relationships in Patterns
    LOC: 7.PR1   TOP: Patterns and Relations (Patterns)   KEY: Conceptual Understanding

19. ANS: D   PTS: 1   DIF: Easy
    REF: 1.5 Patterns and Relationships in Tables   LOC: 7.PR2 |7.PR5
    TOP: Patterns and Relations (Patterns, Variables and Equations)
    KEY: Procedural Knowledge

SHORT ANSWER

20. ANS:
    Add 2

    PTS: 1   DIF: Moderate   REF: 1.1 Patterns in Division
    LOC: 7.N1   TOP: Number   KEY: Problem-solving Skills
21. ANS:
    12 and 18

    PTS: 1   DIF: Moderate   REF: 1.2 More Patterns in Division
    LOC: 7.N1   TOP: Number   KEY: Problem-solving Skills
22. ANS:
    a) $6*n*
    b) $180

    PTS: 1   DIF: Moderate   REF: 1.4 Relationships in Patterns
    LOC: 7.PR1 |7.PR5
    TOP: Patterns and Relations (Patterns, Variables and Equations)
    KEY: Procedural Knowledge
23. ANS:

Input p	1	2	3	4	5
Output $5p$	5	10	15	20	25

The output is 5 times the input.

    PTS: 1   DIF: Easy   REF: 1.5 Patterns and Relationships in Tables
    LOC: 7.PR2 |7.PR5
    TOP: Patterns and Relations (Patterns, Variables and Equations)
    KEY: Communication