SOLUTIONS

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.

D 1. Which number is divisible by 2? Even numbers are divisible by 2
75, 45, 46, 49
a. ~~75~~ NOT EVEN b. ~~45~~ NOT EVEN c. ~~49~~ NOT EVEN d. 46

A 2. Which number is divisible by 4? Look at the last 2 numbers → must be divisible by 4
34, 51, 68, 38
a. 68 (68 ÷ 4 = 17) b. 34 c. 51 d. 38

B 3. Which number is divisible by 2 but **not** by 4? - Has to be even and the last 2 digits must be divisible by 4
92, 115, 138, 184
a. 184 b. 138 NOT divisible by c. 92 d. ~~115~~

D 4. Which number is divisible by 9? add the digits → must be divisible by 9
324 581, 324 664, 324 747, 324 867
~~a.~~ 324 664 (25) ~~b.~~ 324 867 (28) ~~c.~~ 324 581 (23) d. 324 747 (27 → divisible by 9)

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

C 6. Use the divisibility rules to find all the factors of 102. → even, 2, Digits add up to 3, so 3. Because it is divisible by 2 and 3, it is divisible by 6
~~a.~~ 2, 3, 6, 17, 34, 51 (1 and 102 must be listed)
b. 1, 2, 3, 6, 17, 102
c. 1, 2, 3, 6, 17, 34, 51, 102
d. 1, 2, 3, 102

D 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 (3+6+☐+5 has to be divisible by 9. 14 + ☐ has to be ~~18~~. So ☐ has to be 4)

B 8. Identify the numerical coefficient in the algebraic expression $12 + 5x$.
a. 12 b. 5 c. $5x$ d. x
(Numerical coefficient are the numbers with variables)

B 9. Identify the constant term in the algebraic expression $13 + 3x$.
a. $3x$ b. 13 c. 16 d. 3
(the constant term is the number by itself)

C 10. Write an algebraic expression for the sum of m and 4.
a. $m - 4$ b. $4m$ c. $m + 4$ (= means addition) d. $\frac{m}{4}$

C 11. Write an algebraic expression for a number decreased by 15. (decreased means gets smaller or subtraction)
a. $\frac{15}{n}$ b. $\frac{n}{15}$ c. $n - 15$ d. $15 - n$

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

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

$\frac{7c + 15}{c}$ $7(5) + 15/5 = \frac{35+15}{5} = \frac{50}{5} = 10$

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

D 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? $62 + 11(77) = 62 + 847 = 909$

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

C 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

goes up by 3, so rule is $3n$

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

B 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. $n + 7$

each student = (n) and gets 7 pencils = $7 \times n = 7n$

B 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. $2n$

B 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. $11n$

D 19. Complete the table.

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

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

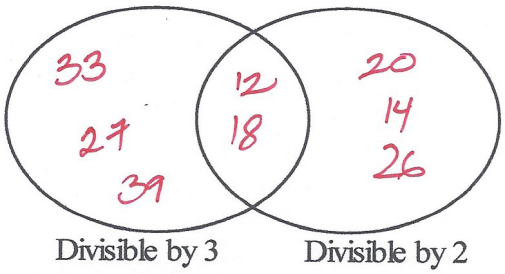
20. What is the least digit you would add to 44 658 to make the number divisible by 5?

add 2

For a number to be divisible by 5, it has to end on 0 or 5.

44658 → has to become 44660. So the minimum digit is 2.

21. Copy the diagram.



Place the numbers in the Venn diagram.
~~33, 12, 20, 14, 27, 18, 26, 39~~

Which numbers were placed in the overlapping region? 12 and 18

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?

a) Relation : $6n$

b) after 30 hours, she will have learned $6 \times 30 = \$180$

23. Copy and complete the table.

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