Revised 9/2018

CHAPTER 1 PRACTICE TEST PROBLEMS

Name KEY Date _____

LESSON 1.1 Practice C

For use with pages 2–7

INSTRUCTIONS

① CLEARLY SHOW WORK

② ANSWERS POSTED ON MY WEB SITE

Evaluate the expression.

1. $5y$ when $y = 6$ $5(6) = (30)$

4. $4 + m$ when $m = 9$ $4+9 = (13)$

7. $\frac{x}{8}$ when $x = 72$ $72/8 = (9)$

10. $2x + y$ when $x = 3$ and $y = 2$ $2(3)+2 = (8)$

12. $\frac{12b}{a}$ when $a = 2$ and $b = 6$ $\frac{12(6)}{2} = \frac{72}{2} = (36)$

Evaluate the power.

14. $5^4 = 625$

15. $\left(\frac{1}{3}\right)^5 = \frac{1}{3}\cdot\frac{1}{3}\cdot\frac{1}{3}\cdot\frac{1}{3}\cdot\frac{1}{3} = \frac{1}{243}$ ← keep as fraction

Evaluate the expression.

18. $(4y)^2$ when $y = 5$ $(4\cdot5)^2 = 20^2 = 400$

20. $4m + n^3$ when $m = 7$ and $n = 10$ $4(7) + 10^3 = 28 + 1{,}000 = 1{,}028$

22. $(3y)^2 - x^2$ when $x = 9$ and $y = 4$ $(3\cdot4)^2 - (9)^2 = 12^2 - 81 = 144 - 81 = 63$

LESSON 1.2 Practice C

For use with pages 8–13

Evaluate the expression.

1. $32 \div 8 \cdot 5$ $= 4\cdot5 = (20)$

2. $14 + 72 \div 9$ $14+8 = (22)$

4. $22 + 3 \cdot 5 - 16$ $= 22+15-16 = (21)$

7. $3^4 - 8 \div \frac{8}{3} + 6$

$81 - 8\cdot\frac{3}{8} + 6 = 81 - 3 + 6 = 84$

8. $5[(4 + 9) - 3^2] \div 2 =$

$5[13-9] \div 2 = 5(4) \div 2 =$

$20 \div 2 = (10)$

Evaluate the expression.

12. $6(m - 4)$ when $m = 19$ $6(19-4) = 6(15) = (90)$

16. $7x^2 + 2x$ when $x = 2$

$7(2)^2 + 2(2) =$

$7(4) + 4 =$

$28 + 4 = 32$

20. $\frac{5m + 4}{3n}$ when $m = 4$ and $n = 2$ $\frac{5(4)+4}{3(2)} = \frac{24}{6} = (4)$

LESSON 1.3 Practice B

For use with pages 14–20

Translate the verbal phrase into an expression.

1. The difference of 9 and a number n — $9-N$
3. The sum of 57 and a number b — $57+B$
5. 18 less than a number c — $C-18$
7. The quotient of 8 and twice a number z — $\frac{8}{2Z}$

Find the unit rate.

13. $\frac{\$75}{5 \text{ video games}}$ — $\$15/\text{VIDEO}$
14. $\frac{600 \text{ students}}{8 \text{ classes}}$ — $75 \text{students}/\text{CLASS}$

← These are Rates

← FIND UNIT RATES (Remember UNITS)

LESSON 1.4 Practice B

For use with pages 21–26

Write an equation or an inequality.

1. The difference of a number c and 17 is more than 33. — $C-17>33$
2. The product of 3 and a number x is less than 21. — $3X<21$
3. The sum of 14 and twice a number y is equal to 78. — $14+2Y=78$
4. The difference of 22 and the quotient of a number m and 4 is 54. — $22-\frac{M}{4}=54$

Check whether the given number is a solution of the equation or inequality.

6. $6x + 7 = 25; 3$

(6) $6(3)+7=25$

$25=25$ ✓

SOLUTION

9. $7a + 4 \geq 20; 2$

(9) $7(2)+4 \geq 20$

$18 \not\geq 20$ (F)

NOT A SOLUTION

18. **Computers** You are buying a new printer and a new scanner for your computer, and you cannot spend over \$150. The printer you want costs \$80. Write an inequality that describes the most that you can spend on the scanner and still stay within your budget.

KI: HAVE \$150 to spend

printer = \$80

Varible → X = COST OF SCANNER

EQ/INEQ → $80+X \leq 150$

$X \leq 70$ ← SOLVE

ANSWER IN WORDS You can spend \$70 or LESS ON A SCANNER

LESSON 1.6

Practice B

For use with pages 35–41

Complete the sentence.

1. The input variable is called the ? variable. X
2. The output variable is called the ? variable. Y

Tell whether the pairing is a function.

3.

Input	Output
-1	-15
3	20
5	15
7	20

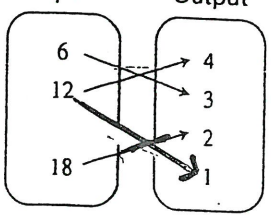
FUNCTION - NO REPEAT X-VALUES

4.

Input	Output
5	-5
7	15
7	25
8	35

NOT FUNCTION - Repeating X values

5. Create a table



X	Y
6	3
12	4
12	1
18	2

NOT A FUNCTION b/c repeating X values

Make a table for the function. Identify the range of the function.

6. $y = 4x - 2$

X	1	2	3	4
Y	2	6	10	14

Domain: 1, 2, 3, 4

R: Y = 2, 6, 10, 14

Write a rule for the function.

9.

Input, x	1	2	3	4
Output, y	5	10	15	20

multiples of 5

$y = 5x$ or $f(x) = 5x$

11. **Shoe Sizes** The table shows men's shoe sizes in the United States and Australia. Write a rule for the Australian size as a function of the United States' size.

U.S. size	5	6	7	8	9	10
Australian size	3	4	5	6	7	8

2 less in each case

$y = x - 2$

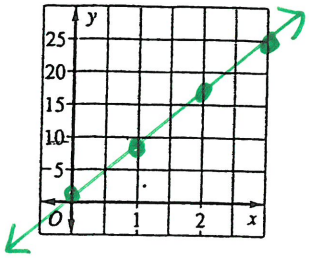
OR

$f(x) = x - 2$

Graph the function.

5. $y = 8x + 1$

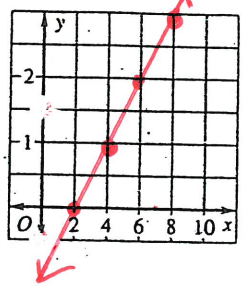
Domain: 0, 1, 2, 3



X	Y
0	1
1	9
2	17
3	25

6. $y = \frac{1}{2}x - 1$

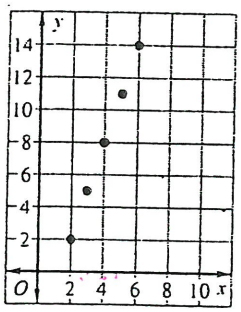
Domain: 2, 4, 6, 8



X	Y
0	-1
2	0
4	1
6	2
8	3

Write a rule for the function represented by the graph. CREATE A TABLE.

9.



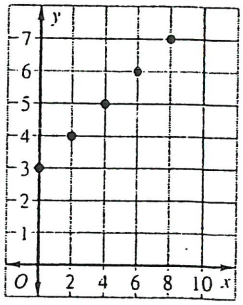
X	Y
2	2
3	5
4	8
5	11
6	14

Y = 3x ___

3(2) − 4 = 2 ✓
3(3) − 4 = 5 ✓
3(4) − 4 = 8 ✓
3(5) − 4 = 11 ✓
3(6) − 4 = 14 ✓

Rule: $y = 3x - 4$ or $f(x) = 3x - 4$

10.



Y = _X + 3

X	Y
0	3
2	4
4	5
6	6
8	7

? _(0) + 3 = 3
$\frac{1}{2}(2) + 3 = 4$ ✓
$\frac{1}{2}(4) + 3 = 5$ ✓
$\frac{1}{2}(6) + 3 = 6$ ✓
$\frac{1}{2}(8) + 3 = 7$ ✓

Rule: $y = \frac{1}{2}x + 3$ or $f(x) = \frac{1}{2}x + 3$

Write a rule for the function represented by the table. Identify the domain and range of the function.

12.

x	0	1	2	3
y	0	4	8	12

$y = 4x$ or $f(x) = 4x$

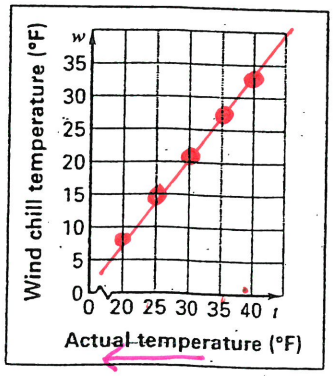
13.

x	10	20	30	40
y	1	2	3	4

$y = x/10$ or $f(x) = x/10$

15. Wind Chill Temperatures The table shows the wind chill temperature w (in degrees Fahrenheit), or how cold it feels to you depending on the wind speed, as a function of the actual temperature t (in degrees Fahrenheit).

Actual temperature (°F), t	40	35	30	25	20
Wind chill temperature (°F) for 10 mi/h wind, w	34	27	21	15	9



a. Graph the function represented by the table.

b. Describe how the wind chill temperature changes as the actual temperature decreases.

AS THE TEMPERATURE DECREASES, THEN THE WIND CHILL ALSO DECREASES.