

CHAPTER 1 PRACTICE TEST PROBLEMS

Name KEY

Date _____

LESSON
1.1

Practice C

For use with pages 2-7

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

Evaluate the expression.

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

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 $y = 4$ $(3 \cdot 4)^2 - (9)^2 = 12^2 - 81 = 144 - 81 = (63)$

LESSON
1.2

Practice C

For use with pages 8-13

Evaluate the expression.

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

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.

- The difference of 9 and a number n $9 - n$
- The sum of 57 and a number b $57 + b$
- 18 less than a number c $c - 18$
- 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. $\frac{600 \text{ students}}{8 \text{ classes}}$

$75 \text{ students/class}$

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.

- The difference of a number c and 17 is more than 33. $c - 17 > 33$
- The product of 3 and a number x is less than 21. $3x < 21$
- The sum of 14 and twice a number y is equal to 78. $14 + 2y = 78$
- 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 $6(3) + 7 = 25$
 $25 = 25 \checkmark$
SOLUTION

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

⑨ $7(2) + 4 \geq 20$
 $18 \geq 20$ (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.

K.I: HAVE \$150 to spend
printer = \$80

Variable $\rightarrow X = \text{COST OF SCANNER}$

EQ/INEQ $\rightarrow 80 + X \leq 150$
 $X \leq 70$

$\leftarrow$ solve

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

Complete the sentence.

- The input variable is called the x variable.
- The output variable is called the y variable.

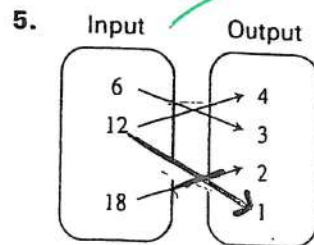
Tell whether the pairing is a function.

3.

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

4.

Input	Output
5	-5
7	15
7	25
8	35



check table

x	y
6	3
12	4
12	1
18	2

FUNCTION - NO REPEAT X-Values

NOT FUNCTION - Repeating X Values

NOT A FUNCTION
b/c repeating
X values

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

6. $y = 4x - 2$

Domain: 1, 2, 3, 4

x	1	2	3	4
y	2	6	10	14

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

$y = x - 2$

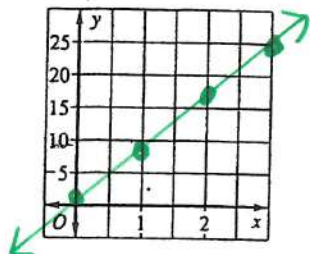
OR

$f(x) = x - 2$

Graph the function.

5. $y = 8x + 1$

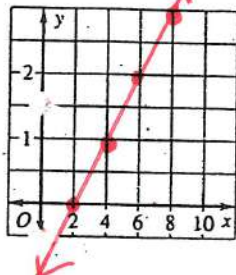
Domain: 0, 1, 2, 3



x	y
0	1
1	9
2	17
3	25

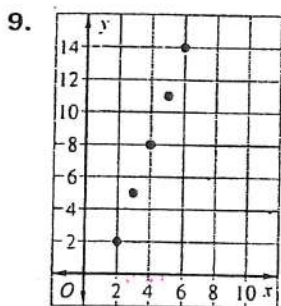
6. $y = \frac{1}{2}x - 1$

Domain: 2, 4, 6, 8



x	y
0	-1
2	0
4	1
6	2
8	3

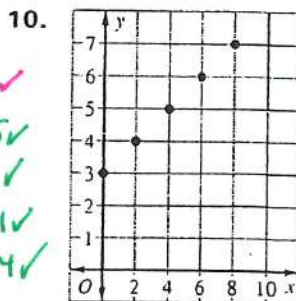
Write a rule for the function represented by the graph. **CREATE A TABLE.**



x	y
2	2
3	5
4	8
5	11
6	14

$y = 3x - 4$

$3(2) - 4 = 2 \checkmark$
 $3(3) - 4 = 5 \checkmark$
 $3(4) - 4 = 8 \checkmark$
 $3(5) - 4 = 11 \checkmark$
 $3(6) - 4 = 14 \checkmark$



x	y
0	3
2	4
4	5
6	6
8	7

$-(0) + 3 = 3$
 $\frac{1}{2}(2) + 3 = 4 \checkmark$
 $\frac{1}{2}(4) + 3 = 5 \checkmark$
 $\frac{1}{2}(6) + 3 = 6 \checkmark$
 $\frac{1}{2}(8) + 3 = 7 \checkmark$

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

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 $f(x) = 4x$

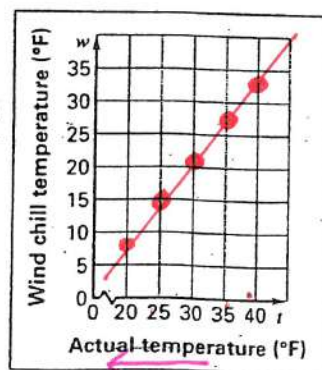
13.

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 ($^{\circ}\text{F}$)	40	35	30	25	20
Wind chill temperature ($^{\circ}\text{F}$) 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.