

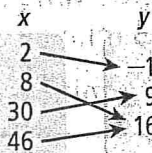
### 3 Topic Assessment Form A

# Practice Test

1. Which relation is a function?

- (A) (1, 0), (3, 0), (1, 1), (3, 1) (1, 3)
- (B) (1, 1), (2, 2), (3, 3), (4, 4), (5, 8)
- (C) (2, 7), (6, 5), (4, 4), (3, 3), (2, 1)
- (D) (9, -3), (9, 3), (4, -2), (4, 2), (0, 0)

2. Identify the domain and range of the relation.



domain:  $\{2, 8, 30, 46\}$   
range:  $\{-1, 9, 16\}$

3. What is the best description of the relation in Item 2?

- (A) a function that is one-to-one
- (B) a function that is many-to-one
- (C) a function that is one-to-many
- (D) a relation that is not a function

4. Jack works after school. Each day he earns a set amount, plus an hourly wage. Write a linear function  $f$  Jack can use to determine his pay.

Hours	1	1.5	2	2.5	3
Pay	18	23	28	33	38

$f(x) = 10x + 8$

5. Which is a reasonable domain for the function in Item 4?

- (A)  $0 < x < 6$
- (B)  $0 < x < 24$
- (C)  $0 < x < 68$
- (D)  $0 < x < 248$

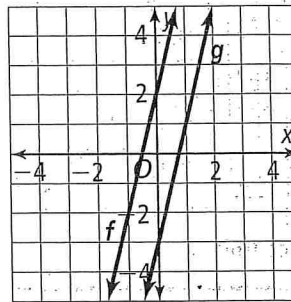
6. In Item 4, assume Jack works from 2:30 P.M. to 7:00 P.M. How much would he earn?

- (A) \$33
- (B) \$35.50
- (C) \$45
- (D) \$53

7. Given  $f(x) = -x + 6$  and  $g(x) = f(x + 3)$ , write an equation for function  $g$ .

$g(x) = -x + 3$

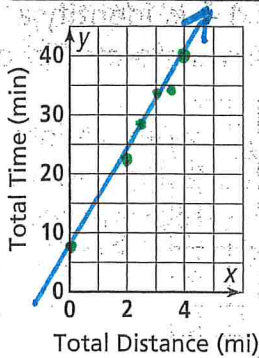
8. Given  $g(x) = f(x) + k$ , identify a value of  $k$  that transforms  $f$  into  $g$ .



$k = -5$

12. Each day, Yumiko exercises by first doing sit-ups and then running. Make a scatter plot of the total time she exercises as a function of the distance she runs. Draw a trend line.

Distance (mi)	2	2.5	3	3.5	4
Time (min)	23	28	34	34	40



13. What type of correlation does the scatter plot in Item 12 show?

- (A) positive  
 (B) negative  
 (C) cannot tell  
 (D) none

14. Which of the following equations is the best trend line for the data in Item 12?

- (A)  $y = 6x + 12$   
 (B)  $y = 8x + 15$   
 (C)  $y = 6x + 6$   
 (D)  $y = 8x + 8$

15. What does the  $y$ -intercept of the line in Item 12 represent?

- (A) average time spent doing sit-ups  
 (B) average time spent running  
 (C) total time spent running  
 (D) average distance run

16. In Item 12, estimate the time it will take Yumiko to run 5 mi.

estimate: about 48 min