

## Unit 4 Review Questions

1.

David creates the table of values shown below based on designs he assembles using black and white 2-D shapes.

Number of Black Shapes ( $b$ )	Number of White Shapes ( $w$ )
2	7
3	9
4	11

Which of the following equations represents the linear relationship between the number of black shapes and the number of white shapes?

- A.  $5b - 3 = w$
- B.  $4b - 1 = w$
- C.  $3b + 1 = w$
- D.  $2b + 3 = w$

2.

Simone works in a restaurant four hours a day for three days a week. She earns \$9.50 per hour, plus tips.

Which of the following expressions represents Simone's earnings in dollars for one week,  $E$ , where  $t$  represents the total amount of tips she earns that week?

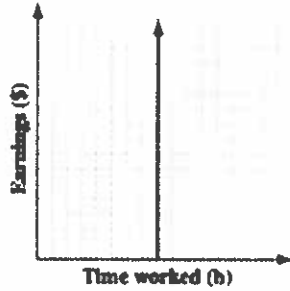
- A.  $E = 4(9.50 + t)$
- B.  $E = 4(9.50) + t$
- C.  $E = 12(9.50 + t)$
- D.  $E = 12(9.50) + t$

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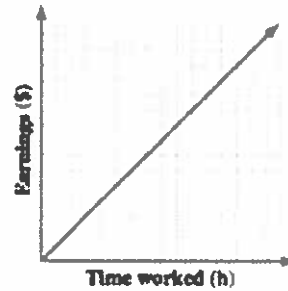
3.

Tiarra earns \$8.50/h at her part-time job. Which of the following graphs shows the relationship between the number of hours that she works and the amount of money that she earns?

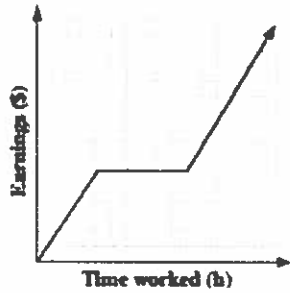
A.



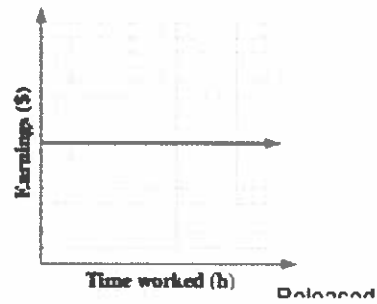
B.



C.



D.

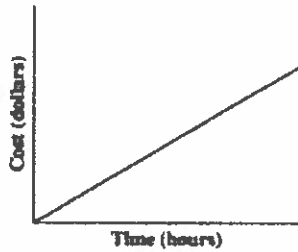


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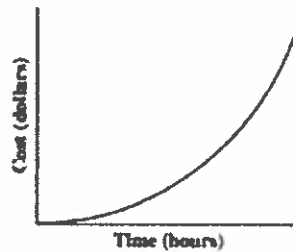
4.

Movers from a particular moving company charge \$46.00/hr. Which of the following graphs represents the relationship between the number of hours that the movers work and the total cost of a move?

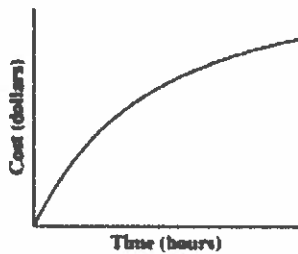
A.



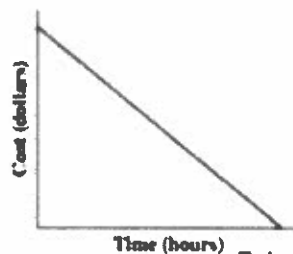
B.



C.



D.



5.

Raj saves a part of his earnings each week. He uses the pattern below to decide how much of his weekly earnings he will save.

Weekly Earnings ( $e$ )	Weekly Savings ( $s$ )
\$10	\$7
\$12	\$8
\$14	\$9
\$16	\$10

11. Which of the following equations could represent the relationship between Raj's weekly savings,  $s$ , and his weekly earnings,  $e$ ?

- A.  $s = e - 3$
- B.  $s = e - 6$
- C.  $s = 2.0(e - 5) - 3$
- D.  $s = 0.5(e + 10) - 3$



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**6.**

Jimmy mows the grass at a golf course. He charges \$7/h plus a flat fee of \$10. One day, he earned \$52. Determine which equation represents this.

- a.  $52 + 7h = 10$
- b.  $7h \times 10 = 52$
- c.  $7h + 10 = 52$
- d.  $52h + 7 = 1000$

**7.**

Larry runs a dog-walking service. He charges \$5/h plus a flat fee of \$6. One day, he earned \$16. Determine which equation represents this.

- a.  $5h \times 6 = 16$
- b.  $5h + 6 = 16$
- c.  $16h + 5 = 600$
- d.  $16 + 5h = 6$

**8.**

Henry runs a dog-walking service. He charges \$3/h plus a flat fee of \$9. One day, he earned \$15. Determine which equation represents this.

- a.  $15 + 3h = 9$
- b.  $3h \times 9 = 15$
- c.  $15h + 3 = 900$
- d.  $3h + 9 = 15$

**9.**

Determine the relation that matches the table of values.

<i>x</i>	1	2	3
<i>y</i>	6	12	18

- a.  $y = x - 2$
- b.  $y = 6x$
- c.  $y = 10 - 2x$
- d.  $y = \frac{3}{4}x$

**10.**

5. Determine the relation that matches the table of values.

<i>x</i>	1	2	3
<i>y</i>	18	14	10

- a.  $y = 22 - 4x$
- b.  $y = \frac{4}{9}x$
- c.  $y = 5x$
- d.  $y = 3x - 2$

**11.**

Determine the rate of change for the relation  $y = 6x$ .

- a.  $-6$
- b.  $-1$
- c.  $6$
- d.  $10$

**12.**

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Determine the rate of change for the relation  $y = 7x - 3$ .

- a. -3
- b. 1
- c. 4
- d. 7

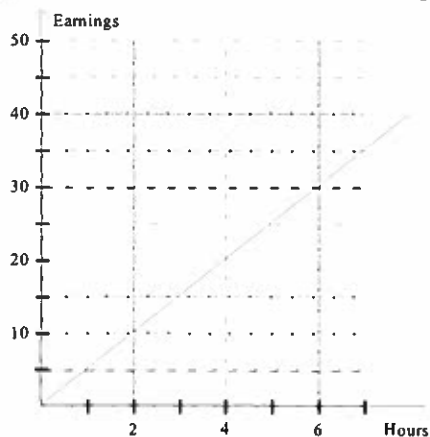
**13.**

Determine the rate of change for the relation  $y = 1 + 3x$ .

- a. -1
- b. 3
- c. 6
- d. 10

**14.**

Determine which situation matches the graph.

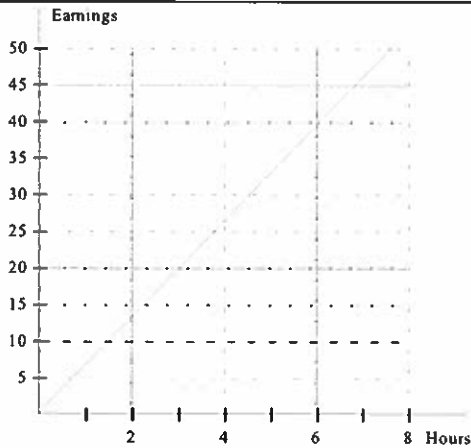


- a. Beth earns \$5/h babysitting.
- b. Davis earns \$6.50/h painting.
- c. Geoff earns \$4/h shovelling snow.
- d. Henry earns \$4.50/h tutoring.

**15.**

Determine which situation matches the graph.

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- a. Rachael earns \$8.50/h babysitting.      c. Jerry earns \$6.50/h shovelling snow.  
b. Christine earns \$6/h painting.            d. Ian earns \$7/h tutoring.

### 16.

Lisa earns \$3 for every 10 papers she delivers. Which ordered pair is not on the graph of the relation between Lisa's earnings and the number of papers she delivers?

- a. (3, 10)    c. (30, 9)  
b. (20, 6)    d. (40, 12)

### 17.

A cell-phone company offers a plan for \$9.75/month. The first 20 min are free and the rate is \$0.25/min after the first 20 min. About how many minutes can you buy each month for \$20?

- a. 30 min    c. 50 min  
b. 40 min    d. 60 min