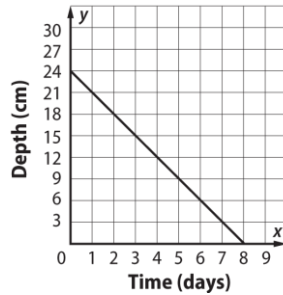# Intro to Algebra
Unit Test #4 and #5

1) The graph shows the depth of water in a fountain over several days. What is the slope and what does it represent? **8.4C**

A –3; the amount of water in the fountain decreases 3 cm each day.

B –1; the amount of water in the fountain decreases 1 cm each day.

C 1; the amount of water in the fountain increases 1 cm each day.

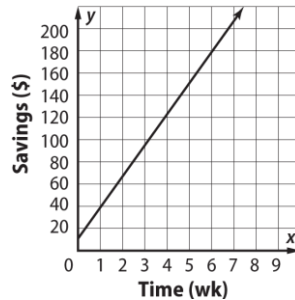**D** 3; the amount of water in the fountain increases 3 cm each day.

2) The points in the table lie on a line. What is the value of y when x is –18? **8.4C**

x	y
–6	–1
–3	–2
0	–3
3	–4
6	-5

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.
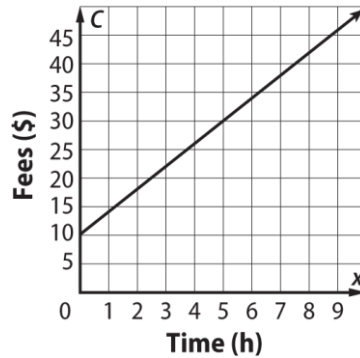
3) The graph shows the amount of money Leslie saved over a 6-week period. What do the slope and *y*-intercept mean? **8.4C**
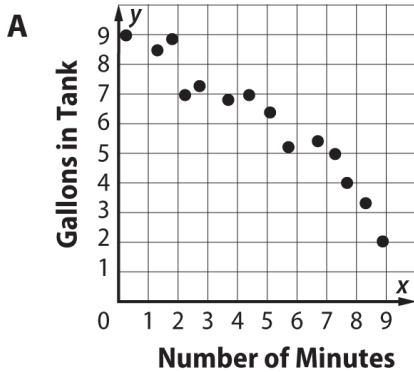

A The slope of 15 means that the initial amount Leslie had was $15. The *y*-intercept of 30 means that Leslie saved $30 each week.

B The slope of 30 means that the initial amount Leslie had was $30. The *y*-intercept of 15 means that Leslie saved $15 each week.

C The slope of 15 means that Leslie saved $15 each week. The *y*-intercept of 30 means that the initial amount Leslie had was $30.

D The slope of 30 means that Leslie saved $30 each week. The *y*-intercept of 15 means that the initial amount Leslie had was $15.

4) The graph shows the amount Morgan charges for babysitting. If Morgan doubles her hourly rate, which equation represents the amount she charges? **8.5B**
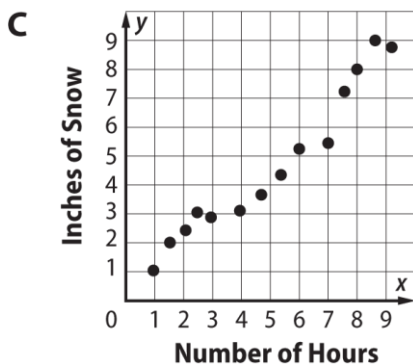

A $C = 4x + 20$

B $C = 2x + 10$

C $C = 8x + 20$

D $C = 8x + 10$

5) Which does NOT represent a linear relationship? **8.5C**

A

B.

Car Age (years)	1	2	3	4	5
Value (thousands $)	30	24	18	12	8

C

D.

Age (years)	10	20	30	40	50
Number of Pets	2	5	0	4	1

6) Which table does NOT show a proportional relationship **8.5H**

A.

Time (weeks)	3	2	1	0
Height (cm)	15	10	5	0

B.

Time (weeks)	3	4	5	6
Height (cm)	12	16	20	24

C.

Time (weeks)	8	6	5	4
Height (cm)	4	3	2.5	2

D.

Time (weeks)	5	6	7	8
Height (cm)	27	32	37	42

7) Mary saved $75 for her son in an account earning 2.5% simple interest. How much more interest would her son's account earn in 15 years if her account earned interest compounded annually instead of simple interest? **8.12D 8.1A**
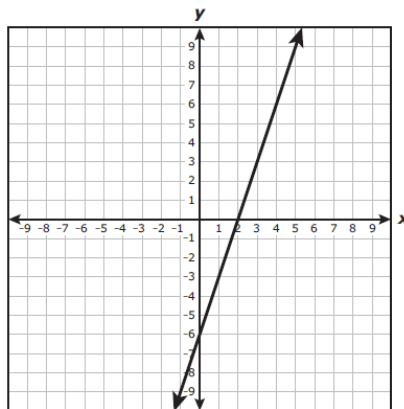
A. $28.13
B. $108.62
C. $5.49
D. $103.13

8) Mr. Diable invested $3,500 in a 7-year Certificate of Deposit (CD) that pays 4.2% interest compounded annually. How much interest will the CD earn over the 7 years? **8.12D**

A $147.00

B $245.00

C $1,168.12

D$4,668.12

9) Which equation can be used to describe the relationship between x and y shown in the graph below? **8.5I**

A. Y= 3x + 2
B. Y = -3x – 6
C. Y = 3x – 6
D. Y = -3x + x

10) **8.5G**
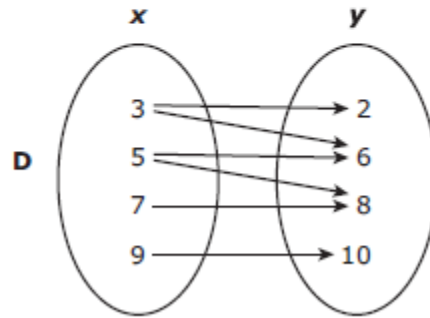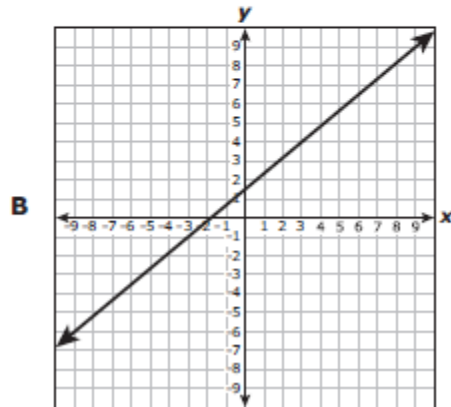
Which representation does **not** show y as a function of x?

A
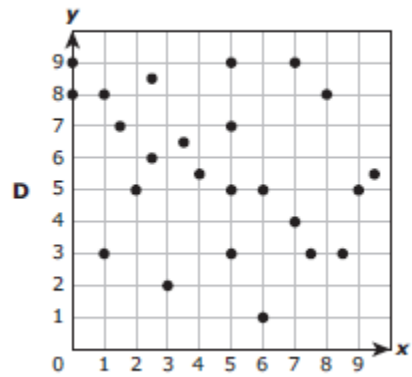| x	1	3	5	7
y	−6	−18	−30	−42

C {(2, −2), (3, −2), (7, −2), (11, −2)}

B

D
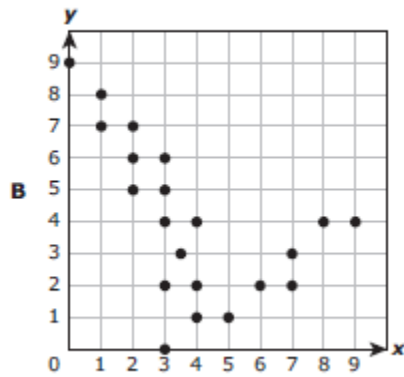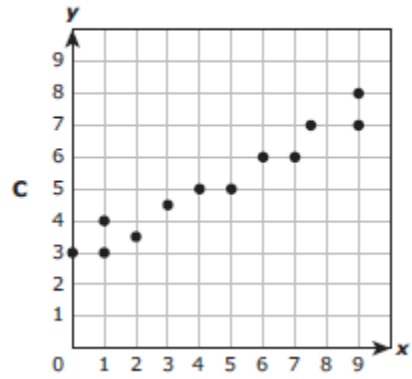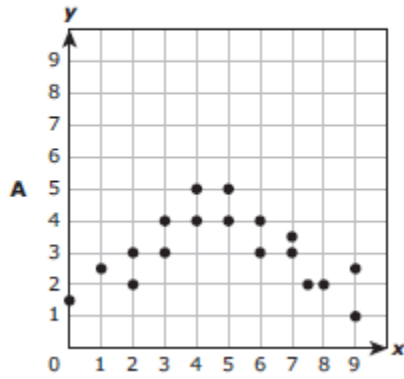

11) Olivia will deposit $1,530 in an account that earns 6% simple interest every year. Her sister Melinda will deposit $1,500 in an account that earns 8% interest compound annually. The deposit will be made on the same day, and no additional money will be deposit or withdrawn from the account. Which statement about the balance of Olivia's account and Melinda's account at the end of 3 years is true? **8.12D**

A Olivia's account will have about $5.40 more than Melinda's account.

B Olivia's account will have about $84.17 more than Melinda's account.

C Melinda's account will have about $5.40 more than Olivia's account.

D Melinda's account will have about $84.17 more than Olivia's account.

12) **8.5C**

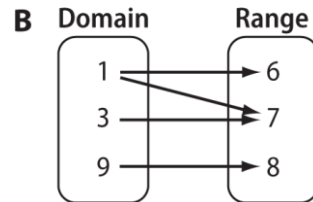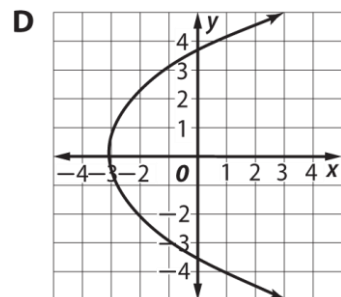Which scatterplot suggests a linear relationship between x and y?

A

C

B

D

13) **8.5D**

Which shows a function? **8.5G**

A

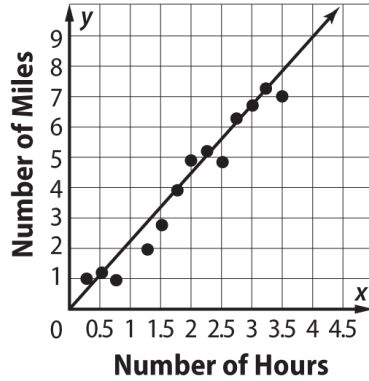| x	−5	5	−5	15
y	20	10	9	10

B Domain   Range

1 → 6
3 → 7
9 → 8

C {(0, 15), (2, 11), (6, 5), (13, 11), (1, 0)}

D

14)) If Joe continues to travel at the same rate as shown in the trend line, how many miles will Joe travel after 9 hours? Round to the nearest whole number. **8.5D**

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

15) An online sports ticket-selling company charges a service charge of $4 to buy tickets. Each ticket costs $55 for a basketball game. Which equation represents the cost of buying tickets through the company? **8.5I**

A $y = 4x + 55$

B $y = 4x - 55$

C $y = 55x + 4$

D $y = 55x - 4$

16) William wants to have a total of $4000 in two years so that he can put a hot tub on his deck. He finds an account that pays 5% interest compounded monthly. How much should William put into this account so that he'll have $4000 at the end of two years? **8.12D 8.1A**

    A. $3,000.00
    B. $3,542.16
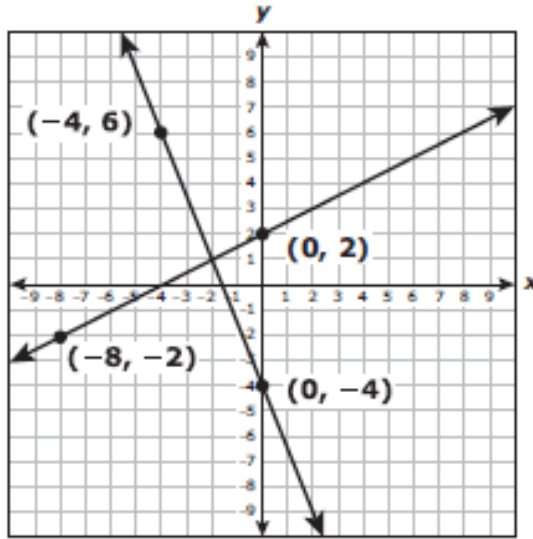   **C.** $3,628.12
    D. $4,000.00

17) The table shows the number of hours students spent playing video games, and their grade point average for the semester. Which describes the association between the data shown? **8.11A**

Hours	0	1.5	0.5	2.5	2	2.5
GPA	4.0	2.0	3.5	1.9	2.0	2.7
Hours	1	4	0.5	1	3.5	2.5
GPA	3.2	1.5	4.0	3.9	1.8	2.5

A negative linear association

B positive linear association

C non-linear association

D no association

18) 8.9A

The two lines graphed on the coordinate grid each represent an equation.

Which ordered pair represents a solution to both equations?

A (−4, 0)

B (−2, 1)

C (0, −4)

D (1, −2)

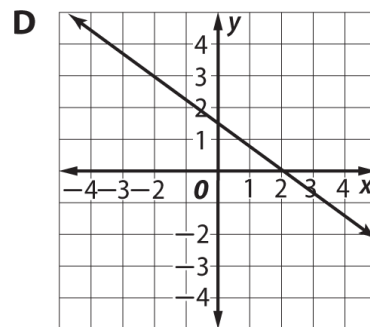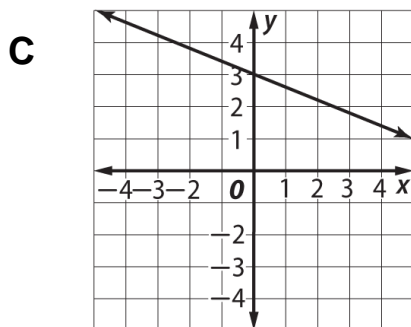19) Which shows a proportional relationship? **8.5F**

A

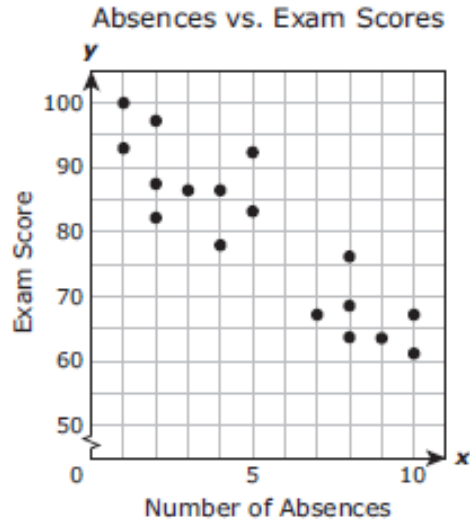| x	−2	−1	1	2
y	−2	−3	−4	−5

B

x	−2	−1	1	2
y	1	0.5	−0.5	−1

C

D

20) 8.5D

Mrs. Collins made a scatterplot to show the relationship between the number of absences a student in her class has and the student's final exam score.

Absences vs. Exam Scores

Based on this scatterplot, approximately what score should a student with 6 absences expect to receive on the final exam?

A 65

B 92

C 67

D 76