8.5A Represent Linear Proportional Relationships in the Form y=kx

1 Several cross country runners were running one morning. Carlos had a 20 meter head start, Angela had a 30 meter head start, and Juan had a 35 meter head start. Susan had no head start. The tables below show each person's distance at a specific time in the race. Which table shows a proportional relationship?

A Carlos

Time (sec)	Distance (m)
0	20
2	24
4	28
6	32
8	36
10	40

B Angela

Time (sec)	Distance (m)
0	30
2	32
4	34
6	36
8	38
10	40

C Susan

Time (sec)	Distance (m)
0	0
2	8
4	16
6	24
8	32
10	40

D Juan

Time (sec)	Distance (m)
0	35
2	36
4	37
6	38
8	39
10	40

**2** Jeff delivers newspapers for his summer job. The chart shows Jeff's wages based on the hours he works.

Jeff's Wages Chart

Hours Worked (h)	Amount Paid (P)
2	$18
5	$45
8	$72
12	$108

Based on the information in the chart, which equation represents the relationship between h, the number of hours Jeff worked, and P, the total amount he was paid?

F $P = 18h$

G $P = h + 9$

H $P = 9h$

J $P = 18 \div h$

3 The graph shows the relationship between the number of cups of cane sugar and the number of cups of whole wheat flour used in a dessert recipe.

Cane Sugar vs
Whole Wheat Flour

Number of Cups of Cane Sugar (y-axis)

Number of Cups of Whole Wheat Flour (x-axis)
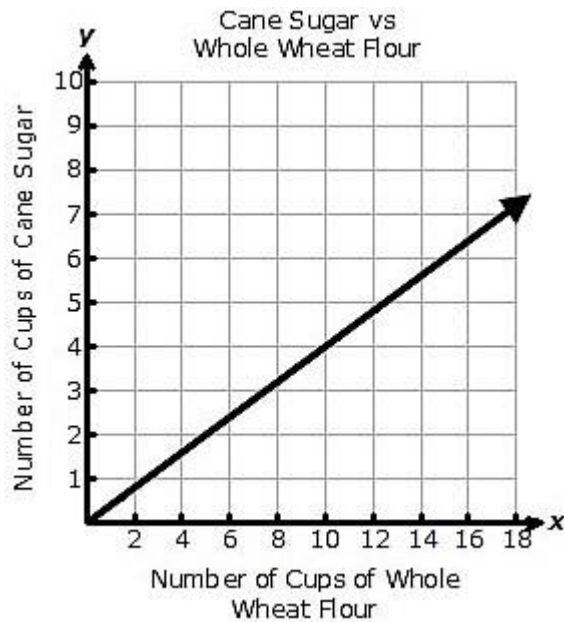
Which equation represents this relationship?

A $y = \frac{1}{2}x$

B $y = \frac{5}{2}x$

C $y = \frac{8}{3}x$

D $y = \frac{2}{5}x$

4 A case of bottled water contains 24 bottles. Each case contains a total of 405.6 ounces of water.

Which equation represents the relationship between ounces of water, *y*, and number of bottles, *x*?

F $y = 16.9x + 24$

G $y = 0.059x$

H $y = 24x + 405.6$

J $y = 16.9x$

Page 5

5 The approximate distance in inches, i, for a length of m meters is equivalent to 39.37 times the value of m. Which table represents this relationship?

A

Length

Meters, m	Inches, i
39.37	0
78.74	1
118.11	2
157.48	3

B

Length

Meters, m	Inches, i
1	39.37
2	78.74
3	118.11
4	157.48

C

Length

Meters, m	Inches, i
39.37	1
78.74	2
118.11	3
157.48	4

D

Length

Meters, m	Inches, i
0	39.37
1	78.74
2	118.11
3	157.48

6 At the grocery store, dried beans are on special for $0.45 for 3 ounces. Which of these graphs best represents the relationship between the number of ounces of dried beans and the cost?
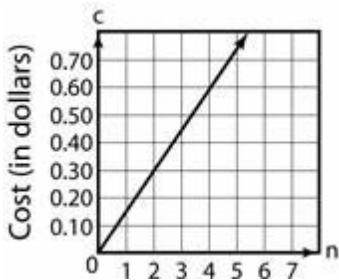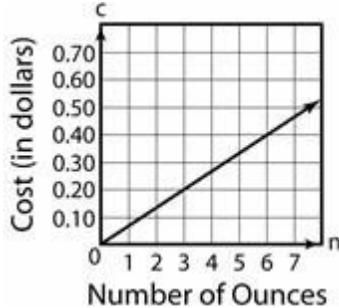
F

Cost (in dollars) vs Number of Ounces

G

Cost (in dollars) vs Number of Ounces

H

Cost (in dollars) vs Number of Ounces

J

Cost (in dollars) vs Number of Ounces
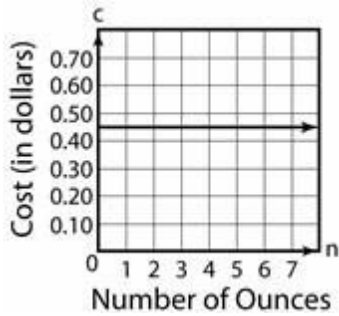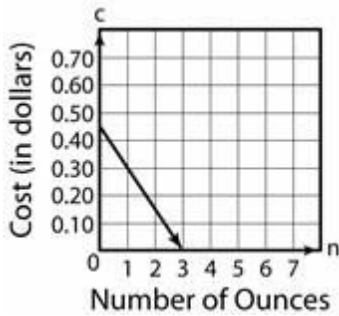
7 Sherman bought a new house 5 months ago. He has paid $350 over 5 months to his neighborhood homeowners association for his monthly association fees.

Which representation shows the relationship between the fees Sherman has paid to the homeowners association, y, and the number of months, x?

A   Homeowners Fees

Number of months, x	Total Fees, y
7	$510
8	$580
9	$650
10	$720

B   Homeowners Fees

Number of months, x	Total Fees, y
5	$350
6	$700
7	$1,050
8	$1,400

C

Homeowners Fees
Total Fees ($) vs Number of Months

D

Homeowners Fees
Total Fees ($) vs Number of Months

GO ON
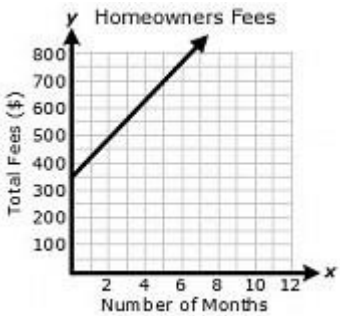
8 There are 50 kilometers in 31 miles. Which representation does NOT show the same relationship?

F

x	y
20	1
28	11
50	31
63	44

G

Kilometers and Miles
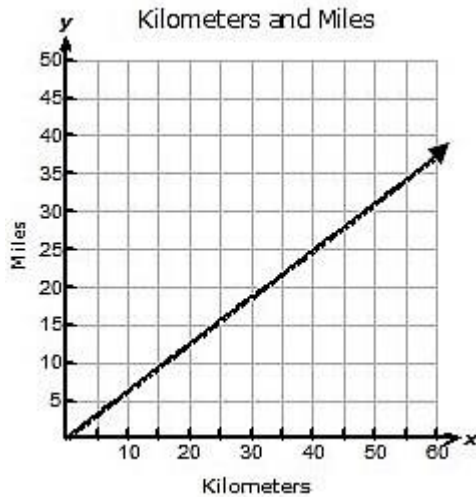
H 186 miles is the same distance as 300 kilometers.

J $y = 0.62x$

9 A can of juice contains 175 calories per 2.5 servings. Which of the following is **NOT** an equivalent number of calories per serving?

A 280 calories per 4 servings

B 910 calories per 13 servings

C 525 calories per 8 servings

D 630 calories per 9 servings

BE SURE YOU HAVE RECORDED ALL OF YOUR ANSWERS ON YOUR ANSWER DOCUMENT

STOP