8.5F and 8.5H Distinguish Between Proportional and Non-Proportional Situations

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1 Which equation represents a proportional relationship between x and y?

A $y = 0.25x + 1.25$

B $y = 4x$

C $y = 14x - 2$

D $y = \frac{2}{3}x - \frac{2}{3}$

2 Martha opens a new cell phone store. She spends $24,500 purchasing inventory to sell, buying furniture, and advertising the business. The table below shows how Martha calculates various costs and profits in her business.

Cell Phone Store

Profits/Costs	Equation Used to Calculate
Raw profits	$p = 12.5c - 24{,}500$ where p represents profit and c represents the number of cell phones sold
Retail price for a cell phone	$r = 1.75w$ where r represents retail price and w represents the labor cost
Sales commissions	$s = 55.95c$ where s represents sale commission and c represents the number of cell phones sold
Wages	$w = 10.25h$ where w represents wages and h represents hours worked

Which equation represents a non-proportional function?

F $p = 12.5c - 24{,}500$

G $r = 1.75w$

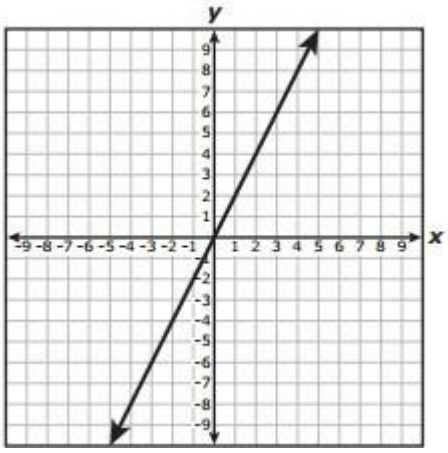
H $s = 55.95c$

J $w = 10.25h$

GO ON

3 Which graph shows a proportional relationship between x and y?

A



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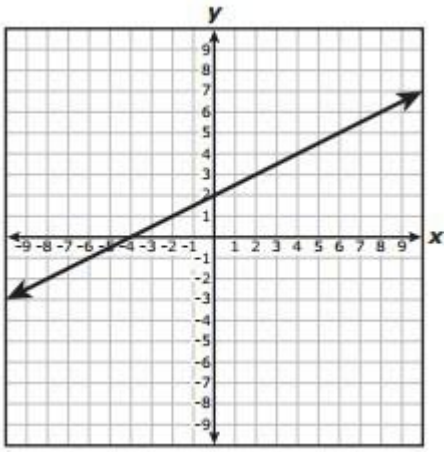

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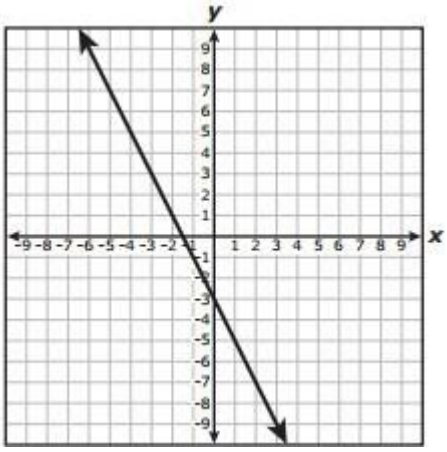

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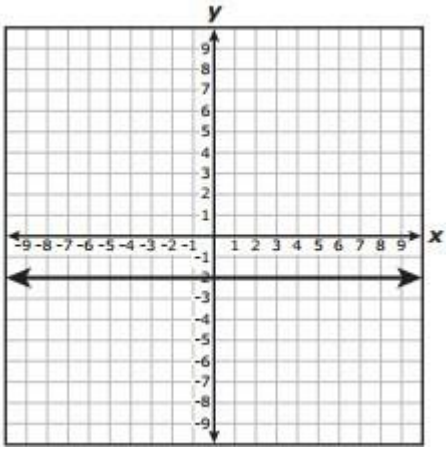
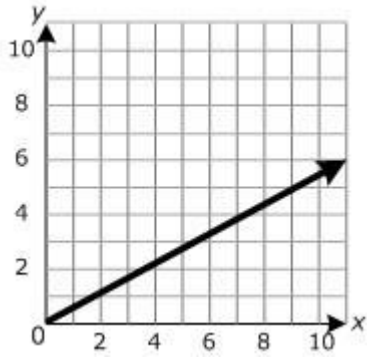


GO ON

4 Which graph does NOT show a proportional relationship between x and y?

F



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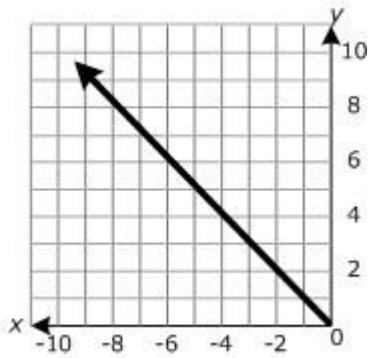

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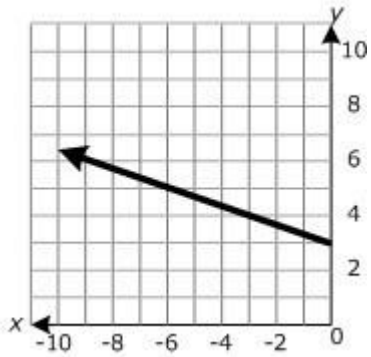

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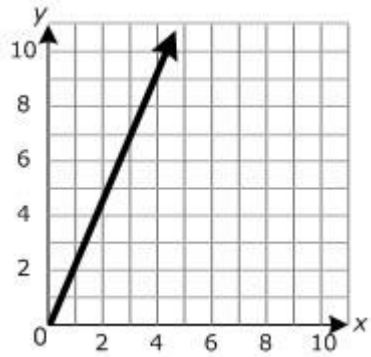


GO ON

5 Which table represents a proportional function?

A

x	-3	-1	1	3
y	1	3	5	7

B

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

C

x	1	2	3	4
y	5	6	7	8

D

x	-5	-2	1	4
y	8	4	0	-4

6 Which table shows a NON-PROPORTIONAL relationship?

F

x	*y*
4	7
6	12
10	23

G

x	*y*
4	12
5	15
6	18

H

x	*y*
2	3
3	4.5
4	6

J

x	*y*
200	300
40	60
20	30

GO ON

7 Table A and Table B represent linear relationships.

Table A

x	*y*
3	12
4	16
5	20
6	24

Table B

x	*y*
2	5
3	7
4	9
5	11

Based on the information in the tables, which statement is true?

A Table A represents a proportional relationship and Table B represents a non-proportional relationship.

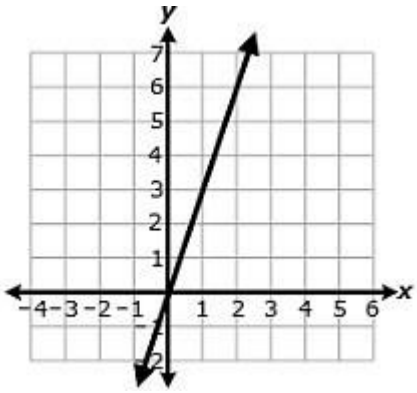
B Table B represents a proportional relationship and Table A represents a non-proportional relationship.

C Table A and Table B represent proportional relationships.

D Table A and Table B represent non-proportional relationships.

8 Which relationship does NOT represent a non-proportional function?

F



G $W = 17.2p - 0.01$

H

n	*m*
−5	−5
2	9
6	17
10	25

J The value of y is 7 less than 4 times the value of x.

GO ON

9 Which situation does NOT represent a proportional relationship?

A The cost of purchasing boxes of paper for $25.39 per box plus a shipping fee of $3.25 per box

B The cost of repairing a copy machine at $35.75 per hour with a service charge of $80.50

C The cost of purchasing printer cartridges at $34.85 per cartridge including delivery

D The cost of repairing a computer at $54.75 per hour

10 Which situation represents a proportional relationship?

F The cost of purchasing a basket of oranges for $1.30 per pound plus $5.00 for the basket

G The cost of purchasing peaches for $7.00 per box of peaches with a delivery charge of $3.00

H The cost of purchasing grapefruit for $1.80 per pound with a coupon for $1.00 off the total cost

J The cost of purchasing apples for $1.75 per pound plus a shipping fee of $0.16 per pound

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

STOP