Identify Proportional Relationships From Tables

Two variables have a **proportional relationship** if all the ratios between them are equivalent.

Find the ratios to determine whether each table represents a proportional relationship. Then circle yes or no for each table. The first ratio has been written for you.

x	*y*	Ratio of *y* to *x*
2	8	$\frac{8}{2} = 4$
5	20	$\frac{20}{5} = 4$
8	32	$\frac{32}{8} = 4$
12	48	$\frac{48}{12} = 4$

Does this table show a proportional relationship?

(Yes) No

a	*b*	Ratio of *b* to *a*
3	8	$\frac{8}{3} = 2\frac{2}{3}$
4	10	$\frac{10}{4} = 2\frac{1}{2}$
5	12	$\frac{12}{5} = 2\frac{2}{5}$
6	14	$\frac{14}{6} = 2\frac{1}{3}$

Does this table show a proportional relationship?

Yes (No)

q	*r*	Ratio of *r* to *q*
10	5	$\frac{5}{10} = \frac{1}{2}$
16	8	$\frac{8}{16} = \frac{1}{2}$
20	9	$\frac{9}{20}$
26	13	$\frac{13}{26} = \frac{1}{2}$

Does this table show a proportional relationship?

Yes (No)

c	*d*	Ratio of *d* to *c*
6	90	$\frac{90}{6} = 15$
5	75	$\frac{75}{5} = 15$
3	45	$\frac{45}{3} = 15$
2	30	$\frac{30}{2} = 15$

Does this table show a proportional relationship?

(Yes) No

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Keep going! Determine whether each table represents a proportional relationship, and explain how you know. Explanations may vary.

m	*n*	
10	15	$\frac{15}{10} = 1\frac{1}{2}$
12	20	$\frac{20}{12} = 1\frac{2}{3}$
16	24	$\frac{24}{16} = 1\frac{1}{2}$
21	35	$\frac{35}{21} = 1\frac{2}{3}$

Does this table show a proportional relationship?

Explain how you know. No, this table does not show a proportional relationship. The ratios of ***n*** to ***m*** are not all equivalent to each other.

e	*f*	
24	18	$\frac{18}{24} = \frac{3}{4}$
48	36	$\frac{36}{48} = \frac{3}{4}$
56	42	$\frac{42}{56} = \frac{3}{4}$
84	63	$\frac{63}{84} = \frac{3}{4}$

Does this table show a proportional relationship?

Explain how you know. Yes, this table shows a proportional relationship. The ratios of ***f*** to ***e*** are all equivalent to $\frac{3}{4}$.

j	*k*	
2	21	$\frac{21}{2} = 10\frac{1}{2}$
3	32	$\frac{32}{3} = 10\frac{2}{3}$
4	43	$\frac{43}{4} = 10\frac{3}{4}$
5	54	$\frac{54}{5} = 10\frac{4}{5}$

Does this table show a proportional relationship?

Explain how you know. No, this table does not show a proportional relationship. The ratios of ***k*** to ***j*** are not all equivalent to each other.

g	*h*	
60	24	$\frac{24}{60} = \frac{2}{5}$
70	28	$\frac{28}{70} = \frac{2}{5}$
80	32	$\frac{32}{80} = \frac{2}{5}$
90	36	$\frac{36}{90} = \frac{2}{5}$

Does this table show a proportional relationship?

Explain how you know. Yes, this table shows a proportional relationship. The ratios of ***h*** to ***g*** are all equivalent to $\frac{2}{5}$.