8.1 RATIOS & PROPORTIONS WITH APPLICATIONS

Determine whether each pair of ratios is proportional. _SHOW ALL OF YOUR WORK._

1. YES or NO	$\dfrac{7}{14}$ and $\dfrac{15}{30}$
2. YES or NO	$\dfrac{55}{65}$ and $\dfrac{33}{44}$

Solve for 'x' in each proportion. _SHOW ALL OF YOUR WORK._

3. $x =$ _____	$\dfrac{x}{6} = -\dfrac{22}{33}$
4. $x =$ _____	$\dfrac{x}{22} = \dfrac{x+4}{30}$
5. $x =$ _____	$\dfrac{3}{x-1} = \dfrac{12}{3x+1}$
6. $x =$ _____	$\dfrac{5}{x+3} = \dfrac{1}{3}$

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Set up a proportion for each of the following and solve. *WORDS FIRST!*

7. Words:_____ Answer:_____	The ratio of mystery books to fiction books is 2 to 3. If there are 12 mystery books, how many fiction books are there?
8. Words:_____ Answer:_____	A sailor is allowed 7 days off for every 30 days at sea. For 28 days off, how many days at sea must a sailor spend?
9. Words:_____ Answer:_____	Two out of every 3 students in Mr. Pearson's ninth grade class recycle aluminum cans. If 48 students recycle aluminum cans, how many students are in Mr. Pearson's class?
10. Words:_____ Answer:_____	Cindy's job is to check computer printers for defects. Out of 420 printers she has to check, only 3 of the first 84 have been defective. Using this information, what is the best prediction of the total number of printers in this group that will be defective?

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11.
 	
    Words:_____
 	
    Answer:_____
	A truck uses 8 gallons of gasoline to go 120 miles. How much gasoline will it use to go 300 miles?

12.
 	
    Words:_____
 	
    Answer:_____
	A recipe for $2\frac{1}{2}$ dozen whole-wheat muffins requires $600\ g$ of flour. How many dozens of muffins can be made with $900\ g$ of flour?

13.
 	
    Words:_____
 	
    Answer:_____
	A car that sold for $11,900 has a sales tax of $767. How much, to the nearest dollar, does a car cost if its sales tax is $637?

14.
 	
    Words:_____
 	
    Answer:_____
	When a pair of blue jeans is made, the leftover denim scraps can be recycled to make stationery, pencils, and more denim. One pound of denim is left after making every five pairs of jeans. How many pounds of denim would be left from 250 pairs of jeans?

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Find the correct answer.

15. _____	Which of the following ratios is proportional to $\frac{6}{13}$?
	A. $\frac{30}{52}$
	B. $\frac{14}{25}$
	C. $\frac{42}{91}$
	D. $\frac{27}{65}$
16. _____	If $\frac{a}{b}$ is proportional to $\frac{c}{d}$, which of the following is **not** necessarily true?
	A. $ad = bc$
	B. $\frac{a}{c} = \frac{b}{d}$
	C. $ab = cd$
	D. $Not\ Here$

REVIEW PROBLEMS

| 17. AB = _____ | Find AB in simplest form, if $A(-3, 4)$ and $B(4, 7)$. |
| 18. Measure = _____ | Find the measure of an angle, if its complement is $43°$. |

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