

Solving Proportions Worksheet

Name: _____

Date: _____ Section: _____

Each problem could be set up this way:

- | | |
|--|--------------------------------|
| 1. Write the proportion. | $\frac{8}{3} = \frac{192}{n}$ |
| 2. Write the cross products | $8 \cdot n = 192 \cdot 3$ |
| 3. Multiply | $8n = 576$ |
| 4. Undo multiplication by using division | $\frac{8n}{8} = \frac{576}{8}$ |
| 5. Divide | $n = 72$ |

Solve each proportion. Be sure to set it up the correct way and show all work.

1. $\frac{4}{9} = \frac{10}{x}$

2. $\frac{5}{2} = \frac{x}{6}$

3. $\frac{5}{2} = \frac{2}{x}$

4. $\frac{21}{27} = \frac{x}{18}$

5. $\frac{15}{21} = \frac{20}{y}$

6. $\frac{b}{26} = \frac{39}{9}$

7. $\frac{h}{108} = 0.435$

8. $4.56 = \frac{70}{w}$

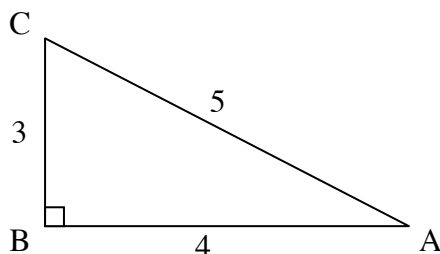
9. $0.65 = \frac{j}{15}$

10. $\frac{350}{p} = 0.25$

11. $\frac{g}{1134} = 0.95$

12. $1.75 = \frac{z}{104}$

The Right Triangle Trigonometric Ratios – Although we won't prove this fact until a future geometry course, all right triangles that have a common acute angle are similar. Thus, the ratios of their corresponding sides are equal. A very long time ago, these ratios were given names. These trigonometric ratios (trig ratios) will be introduced through the following exercises, each of which refer to the diagram below.



In a right triangle:

$$\text{tangent of an angle} = \frac{\text{leg opposite of the angle}}{\text{leg adjacent to the angle}}$$

Exercise #3: $\tan A =$ $\tan C =$

$$\text{sine of an angle} = \frac{\text{leg opposite of the angle}}{\text{hypotenuse}}$$

Exercise #4: $\sin A =$ $\sin C =$

$$\text{cosine of an angle} = \frac{\text{leg adjacent to the angle}}{\text{hypotenuse}}$$

Exercise #5: $\cos A =$ $\cos C =$

A Helpful Mnemonic For Remembering the Ratios:

SOH-CAH-TOA

Sine is **O**pposite over **H**ypotenuse – Cosine is **A**djacent over **H**ypotenuse – Tangent is **O**pposite over **A**djacent

Exercise #3: Find each of the following ratios for the right triangle shown below.

(a) $\sin A =$

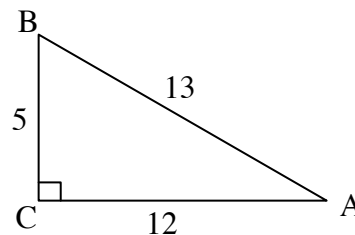
(b) $\tan B =$

(c) $\cos A =$

(d) $\tan A =$

(e) $\cos B =$

(f) $\sin B =$



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Similar Right Triangles - Introduction to Trigonometry Algebra 1 Homework

Skills

For problems 1 – 6, use the triangle to the right to find the given trigonometric ratios.

1. $\cos N =$

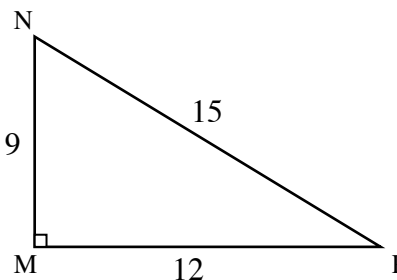
2. $\sin N =$

3. $\tan N =$

4. $\sin P =$

5. $\cos P =$

6. $\tan P =$



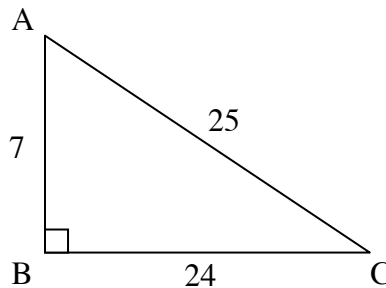
7. Given the right triangle shown, which of the following represents the value of $\tan A$?

(1) $\frac{25}{24}$

(3) $\frac{7}{24}$

(2) $\frac{24}{7}$

(4) $\frac{24}{25}$



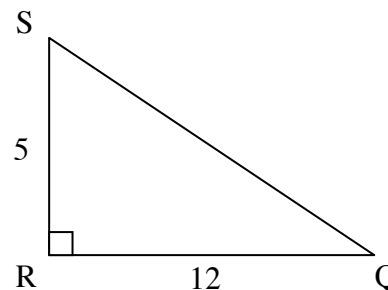
8. In the right triangle below, $\cos Q = ?$

(1) $\frac{12}{5}$

(3) $\frac{12}{17}$

(2) $\frac{5}{12}$

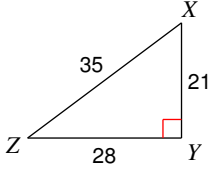
(4) $\frac{12}{13}$



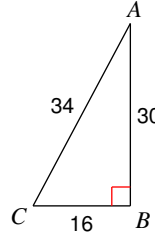
Trigonometric Ratios

Find the value of each trigonometric ratio.

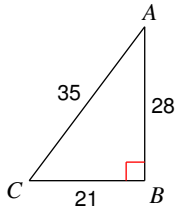
1) $\tan Z$



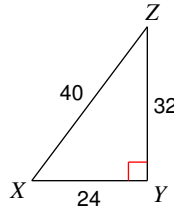
2) $\cos C$



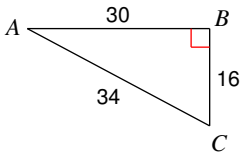
3) $\sin C$



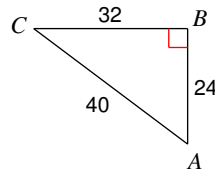
4) $\tan X$



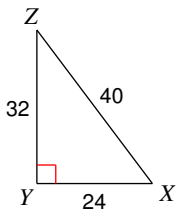
5) $\cos A$



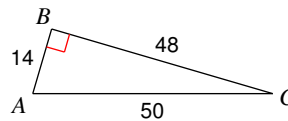
6) $\sin A$



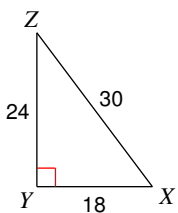
7) $\sin Z$



8) $\sin C$



9) $\cos Z$



10) $\tan C$

