

Remember: SOHCAHTOA

Find the length of segment RS and use the diagram to find the trigonometric ratios.

1. $\sin R = \frac{2}{\sqrt{13}} \cdot \frac{\sqrt{13}}{\sqrt{13}} = \frac{2\sqrt{13}}{13}$

4. $\sin S = \frac{3}{\sqrt{13}} \cdot \frac{\sqrt{13}}{\sqrt{13}} = \frac{3\sqrt{13}}{13}$

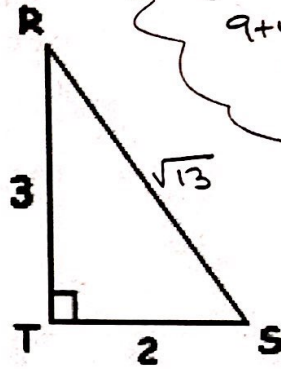
2. $\cos R = \frac{3}{\sqrt{13}} \cdot \frac{\sqrt{13}}{\sqrt{13}} = \frac{3\sqrt{13}}{13}$

5. $\cos S = \frac{2}{\sqrt{13}} \cdot \frac{\sqrt{13}}{\sqrt{13}} = \frac{2\sqrt{13}}{13}$

3. $\tan R = \frac{2}{3}$

6. $\tan S = \frac{3}{2}$

* Find the missing side
 $3^2 + 2^2 = c^2$
 $9 + 4 = c^2$
 $13 = c^2$
 $c = \sqrt{13}$



7. What do you notice about the sin R and the cos S?
 They are the same (equal)

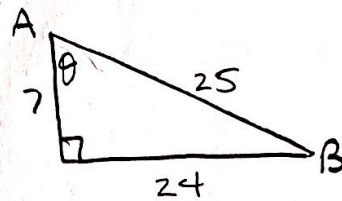
8. What do you notice about the cos R and the sin S?
 They are the same (equal)

9. What do you notice about the tan R and the tan S?
 They are the reciprocal of each other.

$\angle A$ and $\angle B$ are complementary angles in a right triangle. The value of $\sin A = \frac{24}{25}$.

10. What is the tan A? $\frac{24}{7}$

11. What is the cos A? $\frac{7}{25}$



$24^2 + b^2 = 25^2$
 $576 + b^2 = 625$
 $b^2 = 49$
 $b = 7$

$\angle M$ and $\angle N$ are complementary angles in a right triangle. The value of $\tan M = \frac{\sqrt{3}}{2}$.

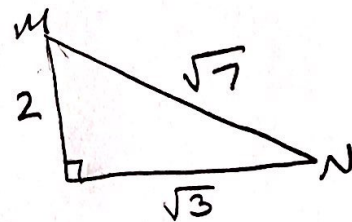
12. What is the sin M? $\frac{\sqrt{3}}{\sqrt{7}} \cdot \frac{\sqrt{7}}{\sqrt{7}} = \frac{\sqrt{21}}{7}$

13. What is the cos M? $\frac{2}{\sqrt{7}} \cdot \frac{\sqrt{7}}{\sqrt{7}} = \frac{2\sqrt{7}}{7}$

14. What is the sin N? $\frac{2\sqrt{7}}{7}$
 ↳ same as cos M

15. What is the cos N? $\frac{\sqrt{21}}{7}$
 ↳ same as sin M

16. What is the tan N? $\frac{2}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$



$\sqrt{3}^2 + 2^2 = c^2$
 $3 + 4 = c^2$
 $7 = c^2$
 $c = \sqrt{7}$