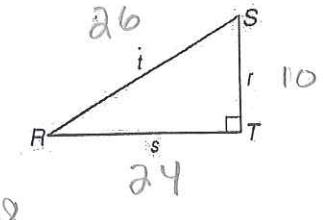
NAME Key DATE _____ PERIOD ____

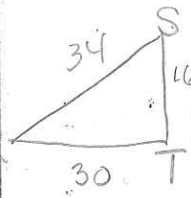
7-4 Skills Practice

Trigonometry

* You MUST show work in order to receive credit!

Use $\triangle RST$ to find sin R, cos R, tan R, sin S, cos S, and tan S. Express each ratio as a fraction and as a decimal to the nearest hundredth.





1. $r = 16, s = 30, t = 34$

Sin R = $\frac{16}{34}$ = 0.47

Cos R = $\frac{30}{34}$ = 0.88

Tan R = $\frac{16}{30}$ = 0.53

Sin S = $\frac{30}{34}$ = 0.88

Cos S = $\frac{16}{34}$ = 0.47

Tan S = 30/16 = 1.88

2. $r = 10, s = 24, t = 26$

Sin R = $\frac{10}{26}$ = 0.38

Cos R = 24/26 = 0.92

Tan R = $\frac{10}{24}$ = 0.42

Sin S = 24/26 = 0.92

Cos S = 10/26 = 0.38

Tan S = 24/10 = 2.40

Use a calculator to find each value. Round to the nearest ten-thousandth.

3. sin 5 0.0872

4. tan 23 0.4245

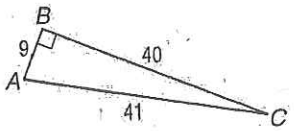
5. cos 61 0.4848

6. sin 75.8 0.9694

7. tan 17.3 0.3115

8. cos 52.9 0.6032

Use the figure to find each trigonometric ratio. Express answers as a fraction and as a decimal rounded to the nearest ten-thousandth.



9. tan C

$\frac{9}{40}$ = 0.2250

10. sin A

$\frac{40}{41}$ = 0.9756

11. cos C

$\frac{40}{41}$ = 0.9756

Find the measure of each acute angle to the nearest tenth of a degree.

12. sin B = 0.2985 B = 17.4°

13. tan A = 0.4168 A = 22.6°

14. cos R = 0.8443 R = 32.4°

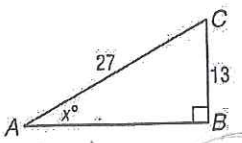
15. tan C = 0.3894 C = 21.3°

16. cos B = 0.7329 B = 42.9°

17. sin A = 0.1176 A = 6.8°

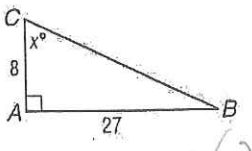
Find x. Round to the nearest tenth.

18.



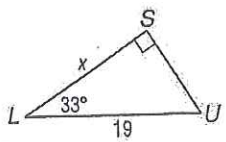
X = Sin⁻¹(13/27) = 28.8°

19.



X = tan⁻¹(27/8) = 73.5°

20.



Cos 33 = $\frac{X}{19}$

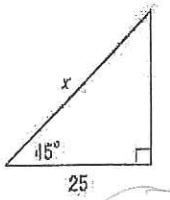
X = 19 Cos 33

X = 15.9

Lesson 7-4

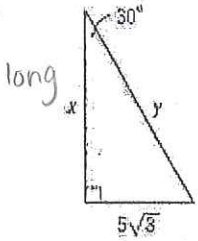
Solve for the missing variable(s).

1.



$x = 5\sqrt{2}$

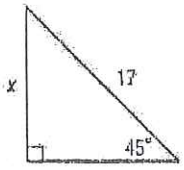
2.



$x = \text{long} = 5\sqrt{3}(\sqrt{3}) = 15$

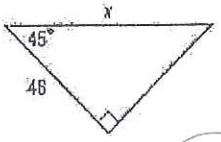
$y = \text{hyp} = 5\sqrt{3}(2) = 10\sqrt{3}$

3.



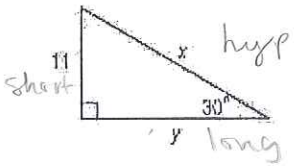
$x = \text{leg} = \frac{17}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{17\sqrt{2}}{2}$

4.



$x = \text{hyp} = 48\sqrt{2}$

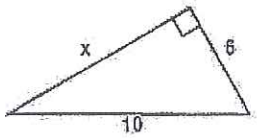
5.



$x = \text{hyp} = 11 \cdot 2 = 22$

$y = \text{long} = 11\sqrt{3}$

6.



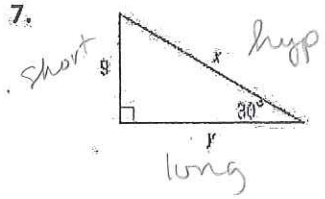
$x^2 + 6^2 = 10^2$

$x^2 + 36 = 100$

$x^2 = 64$

$x = 8$

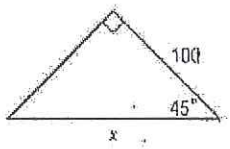
7.



$x = \text{hyp} = 9 \cdot 2 = 18$

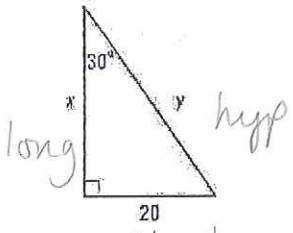
$y = \text{long} = 9\sqrt{3}$

8.



$x = 100\sqrt{2}$

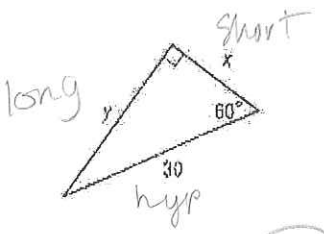
9.



$x = \text{long} = 20\sqrt{3}$

$y = \text{hyp} = 20 \cdot 2 = 40$

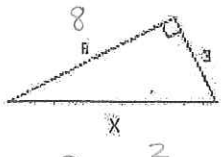
10.



$x = \text{short} = \frac{30}{2} = 15$

$y = \text{long} = 15\sqrt{3}$

11.



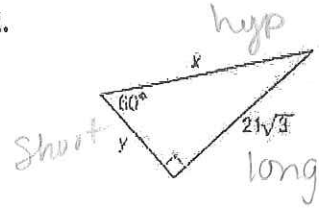
$x^2 = 8^2 + 3^2$

$x^2 = 64 + 9$

$x^2 = 73$

$x = \sqrt{73}$

12.



$y = \text{short} = \frac{21\sqrt{3}}{\sqrt{3}} = 21$

$x = \text{hyp} = 21 \cdot 2 = 42$