

**Mrs. Bramer and Mr. Lackner**

**Geometry NTI Day 29**

Unit 8 – Right Triangle Trigonometry

Day 29: Trigonometric Understanding Check Review

Hey, guys!

Today we will complete a review in preparation for our second understanding check in the unit on **Right Triangle Trigonometry**. You should try the following practice so that you can use this as a reference during the understanding check on Monday. This assignment will not be graded and you do not have to turn it in. This is for your use. The understanding check will be Monday and will be open note – you will be allowed to use the notes and practice you have completed during the assessment.

If you are struggling to access google classroom please email your teacher at their respective email address:

Mrs. Bramer: [Katherine.bramer@kenton.kyschools.us](mailto:Katherine.bramer@kenton.kyschools.us)

Mr. Lackner: [Chris.Lackner@kenton.kyschools.us](mailto:Chris.Lackner@kenton.kyschools.us)

You do not need to submit this assignment as it is not going to be graded.

Our “online office hours” will be from 10 a.m. to 2 p.m. You are welcome to email us or message us on Google Classroom anytime, but these are the hours we are setting aside specifically to answer your questions and reach out with reminders to people.

WHAT TO DO:

Step 1: Try the optional practice below

Step 2: Check out the help at the end of the document and let me know if you have any remaining questions as our understanding check is tomorrow!

\*\*We will have an online, open note understanding check (20 point accuracy grade) on Monday, May 4<sup>th</sup>!

Have a great day!

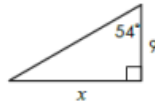
-Mrs. Bramer and Mr. Lackner

# Trig Learning Check Prep with answers in back

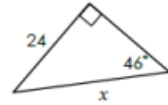
Find missing side using Trig

**Directions:** Solve for  $x$ . Round your answer to the nearest tenth.

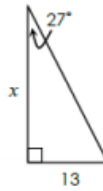
27.



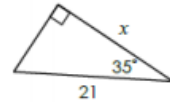
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29.

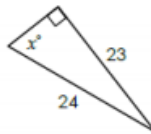


30.

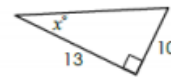


Find missing angles using Trig

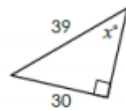
31.



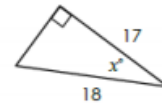
32.



33.



34.



**Topic 6: Angle of Elevation & Angle of Depression**

**Directions:** Use a picture to help solve the problem. Round your answer to the nearest tenth.

35. The town park does an outdoor movie night every Saturday during the summer on a large screen. Kate is sitting 36 feet from the base of the screen, watching a movie with her family. If the angle of elevation from Kate to the top of the screen is  $24^\circ$ , how tall is the movie screen?

36. Elijah is looking up to the top of the Washington Monument. If the monument is 555 feet tall and the angle of elevation from the point on the ground where Elijah is standing to the top is  $74^\circ$ , how far is he standing from the base of the monument?

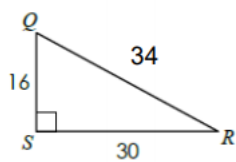
37. While parasailing, Ryan spots a dolphin on the water below. If Ryan is 228 feet above the water and the angle of depression to the dolphin is  $15^\circ$ , what is the horizontal distance between Ryan and the dolphin?

38. The angle of depression from an airplane to the top of an air traffic control tower is  $56^\circ$ . If the tower is 320 feet tall and the the airplane is flying at an altitude of 7,450 feet, how far away is the airplane from the control tower?

39. Find the angle of depression from the top of a lighthouse 275 feet above water to a boat 1,324 feet off shore.

**Directions:** Find each trigonometric ratio. Give your answer as a fraction in simplest form.

26.

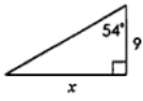
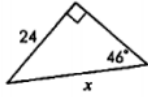
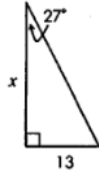
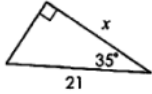


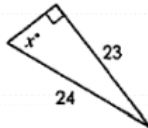
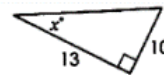
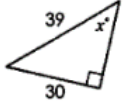
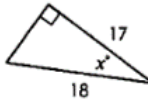
•  $\sin Q = \underline{\hspace{2cm}}$  •  $\sin R = \underline{\hspace{2cm}}$

•  $\cos Q = \underline{\hspace{2cm}}$  •  $\cos R = \underline{\hspace{2cm}}$

•  $\tan Q = \underline{\hspace{2cm}}$  •  $\tan R = \underline{\hspace{2cm}}$

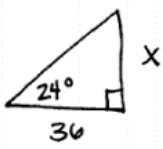
key

<p>27.</p> $\tan 54 = \frac{x}{9}$ $x = 12.4$ 	<p>28.</p> $\sin 46 = \frac{24}{x}$ $x = \frac{24}{\sin 46}$ $x = 33.4$ 
<p>29.</p> $\tan 27 = \frac{13}{x}$ $x = \frac{13}{\tan 27}$ $x = 25.5$ 	<p>30.</p> $\cos 35 = \frac{x}{21}$ $x = 17.2$ 

<p>31.</p> $\sin x = \frac{23}{24}$ $x = \sin^{-1}\left(\frac{23}{24}\right)$ $x = 73.4^\circ$ 	<p>32.</p> $\tan x = \frac{10}{13}$ $x = \tan^{-1}\left(\frac{10}{13}\right)$ $x = 37.6^\circ$ 
<p>33.</p> $\sin x = \frac{30}{39}$ $x = \sin^{-1}\left(\frac{30}{39}\right)$ $x = 50.3^\circ$ 	<p>34.</p> $\cos x = \frac{17}{18}$ $x = \cos^{-1}\left(\frac{17}{18}\right)$ $x = 19.2^\circ$ 

**Directions:** Use a picture to help solve the problem. Round your answer to the nearest tenth.

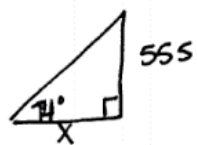
35. The town park does an outdoor movie night every Saturday during the summer on a large screen. Kate is sitting 36 feet from the base of the screen, watching a movie with her family. If the angle of elevation from Kate to the top of the screen is  $24^\circ$ , how tall is the movie screen?



$$\tan 24 = \frac{x}{36}$$

$$x = 16 \text{ ft}$$

36. Elijah is looking up to the top of the Washington Monument. If the monument is 555 feet tall and the angle of elevation from the point on the ground where Elijah is standing to the top is  $74^\circ$ , how far is he standing from the base of the monument?

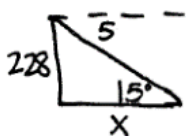


$$\tan 74 = \frac{555}{x}$$

$$x = \frac{555}{\tan 74}$$

$$x = 159.1 \text{ ft}$$

37. While parasailing, Ryan spots a dolphin on the water below. If Ryan is 228 feet above the water and the angle of depression to the dolphin is  $15^\circ$ , what is the horizontal distance between Ryan and the dolphin?

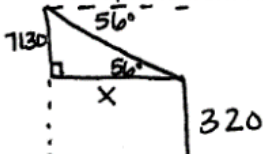


$$\tan 15 = \frac{228}{X}$$

$$X = \frac{228}{\tan 15}$$

$$X = 850.9 \text{ ft}$$

38. The angle of depression from an airplane to the top of an air traffic control tower is  $56^\circ$ . If the tower is 320 feet tall and the airplane is flying at an altitude of 7,450 feet, how far away is the airplane from the control tower?

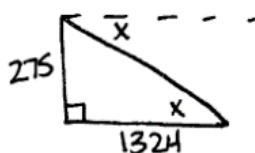


$$\tan 56 = \frac{7130}{X}$$

$$X = \frac{7130}{\tan 56}$$

$$X = 4809.2 \text{ ft}$$

39. Find the angle of depression from the top of a lighthouse 275 feet above water to a boat 1,324 feet off shore.

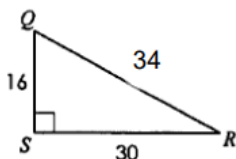


$$\tan X = \frac{275}{1324}$$

$$X = \tan^{-1} \left( \frac{275}{1324} \right)$$

$$X = 11.7^\circ$$

26.



$$\begin{aligned} \bullet \sin Q &= \frac{30}{34} = \frac{15}{17} & \bullet \sin R &= \frac{16}{34} = \frac{8}{17} \\ \bullet \cos Q &= \frac{16}{34} = \frac{8}{17} & \bullet \cos R &= \frac{30}{34} = \frac{15}{17} \\ \bullet \tan Q &= \frac{30}{16} = \frac{15}{8} & \bullet \tan R &= \frac{16}{30} = \frac{8}{15} \end{aligned}$$