

Lesson 9.5- Mixed Review.notebook

April 09, 2018

Objective: SWBAT solve for missing parts of right triangles using trigonometry.
KICKOFF- Directions: Answer each of the following questions.

1) Complete the square: $x^2 - 4x - 22 = 0$

$$\begin{aligned} &+2+2 \\ &\frac{1}{2}(-4)^2=4 \\ &x^2 - 4x + 4 = 22 \\ &(x-2)^2 = \sqrt{26} \end{aligned}$$

2) Find $f^{-1}(x)$ of

$f(x) = 3x - 5$

$$\begin{aligned} &4 = 3y - 5 \\ &4+5 = 3y+5 \\ &9 = 3y \\ &3 = 3 \\ &y = 3 \end{aligned}$$

3) Simplify: $5\sqrt{27} + 6\sqrt{3} - 4\sqrt{48}$

$$\begin{aligned} &5\sqrt{9 \cdot 3} + 6\sqrt{3} - 4\sqrt{16 \cdot 3} \\ &5 \cdot 3\sqrt{3} + 6\sqrt{3} - 4 \cdot 4\sqrt{3} \\ &15\sqrt{3} + 6\sqrt{3} - 16\sqrt{3} \\ &5\sqrt{3} \end{aligned}$$

4) Solve for x:

$$\begin{aligned} &\sqrt{5x+1} - 6 = 0 \\ &+6+6 \\ &(\sqrt{5x+1})^2 = 6^2 \\ &5x+1 = 36 \\ &5x = 35 \\ &x = 7 \end{aligned}$$

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SOH CAH TOA
Find the value of each trigonometric ratio as fractions in their simplest form.

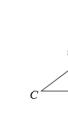
1) $\tan A$



$$\frac{\text{opp}}{\text{hyp}}$$

$\tan A = \frac{32}{40} = \frac{8}{10} = \frac{4}{5}$

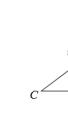
2) $\sin X$



$$\frac{\text{opp}}{\text{hyp}} = \frac{15}{25} = \frac{3}{5}$$

$\sin X = \frac{15}{25} = \frac{3}{5}$

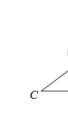
3) $\cos A$



$$\frac{\text{adj}}{\text{hyp}} = \frac{40}{50} = \frac{4}{5}$$

$\cos A = \frac{40}{50} = \frac{4}{5}$

4) $\tan Z$



$$\frac{\text{opp}}{\text{hyp}} = \frac{48}{50} = \frac{24}{25}$$

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Find the missing side. Round answers to the nearest tenth.

5)
 $\tan 54^\circ = \frac{12}{x}$

SOH CAH TOA
 $x = 12 \tan 54^\circ$

$x = 16.516$
 $x = 16.5$

6)
 $x = 18 \sin 58^\circ$

$x = 16.516$

$x = 16.5$

7)
 $\cos 31^\circ = \frac{16}{x}$

$x = 16 \sec 31^\circ$

$x = 31.1$

8)
 $x = 14 \sin 66^\circ$

$x = 12.5$

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9)

$x = 15 \sin 68^\circ$

$x = 13.5$

10)

$x = 10 \cos 35^\circ$

$x = 8.1$

11)

$x = 16 \sin 33^\circ$

$x = 8.5$

12)

$x = 17 \cos 45^\circ$

$x = 12.2$

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Find the measure of the indicated angle to the nearest degree.

13)

$\tan \alpha = \frac{13}{21}$

$\alpha = \tan^{-1} \frac{13}{21}$

$31.7 \rightarrow 32^\circ$

14)

$\sin \theta = \frac{13}{20}$

$\theta = \sin^{-1} \frac{13}{20}$

15)

$\tan \alpha = \frac{5}{11}$

$\alpha = \tan^{-1} \frac{5}{11}$

16)

$\cos \theta = \frac{4}{5}$

$\theta = \cos^{-1} \frac{4}{5}$

17)

$\theta = 32^\circ$

18)

19)

$\sin \theta = \frac{25}{48}$

$\theta = \sin^{-1} \frac{25}{48}$

20)

$\cos \theta = \frac{48}{25}$

$\theta = \cos^{-1} \frac{48}{25}$

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