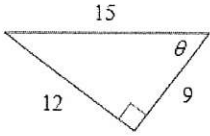


Name: Key Hour: _____

WS 11.1 - Finding Trig Ratios

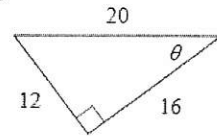
Find the value of the trig function indicated.

1) $\sin \theta$



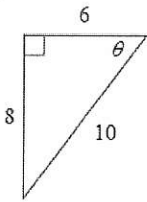
$$\sin \theta = \frac{12}{15} = \boxed{\frac{4}{5}}$$

2) $\cos \theta$



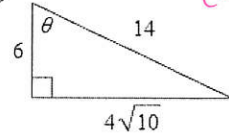
$$\cos \theta = \frac{16}{20} = \boxed{\frac{4}{5}}$$

3) $\cos \theta$



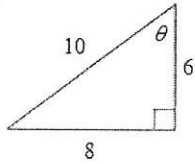
$$\cos \theta = \frac{6}{10} = \boxed{\frac{3}{5}}$$

4) $\cos \theta$



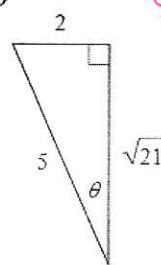
$$\cos \theta = \frac{6}{14} = \boxed{\frac{3}{7}}$$

5) $\tan \theta$



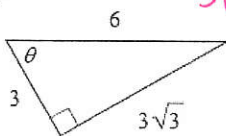
$$\tan \theta = \frac{6}{8} = \boxed{\frac{3}{4}}$$

6) $\sin \theta$



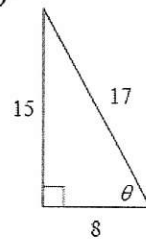
$$\sin \theta = \frac{2}{5} = \boxed{\frac{2}{5}}$$

7) $\sin \theta$



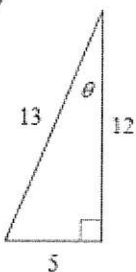
$$\sin \theta = \frac{3}{6} = \boxed{\frac{1}{2}}$$

8) $\cos \theta$



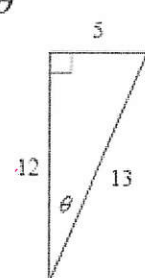
$$\cos \theta = \frac{8}{17} = \boxed{\frac{8}{17}}$$

9) $\sin \theta$



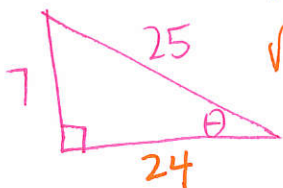
$$\sin \theta = \frac{12}{13} = \boxed{\frac{12}{13}}$$

10) $\tan \theta$



$$\tan \theta = \frac{5}{12} = \boxed{\frac{5}{12}}$$

31) Find $\cos \theta$ if $\sin \theta = \frac{7}{25}$



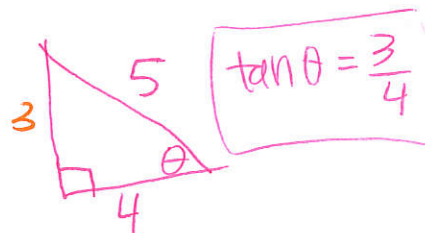
$$7^2 + b^2 = 25^2$$

$$\sqrt{b^2} = \sqrt{625 - 49}$$

$$b = 24$$

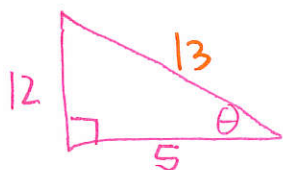
$$\cos \theta = \frac{24}{25}$$

32) Find $\tan \theta$ if $\cos \theta = \frac{4}{5}$



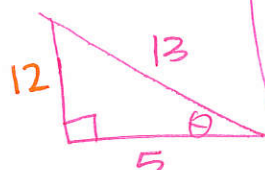
$$\tan \theta = \frac{3}{4}$$

33) Find $\sin \theta$ if $\tan \theta = \frac{12}{5}$



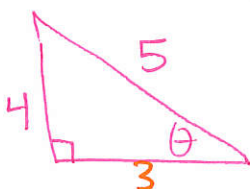
$$\sin \theta = \frac{12}{13}$$

34) Find $\sin \theta$ if $\cos \theta = \frac{5}{13}$



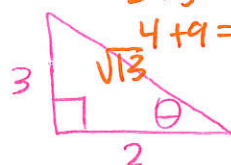
$$\sin \theta = \frac{12}{13}$$

35) Find $\cos \theta$ if $\sin \theta = \frac{4}{5}$



$$\cos \theta = \frac{3}{5}$$

36) Find $\cos \theta$ if $\tan \theta = \frac{3}{2}$



$$2^2 + 3^2 = c^2$$

$$4 + 9 = c^2$$

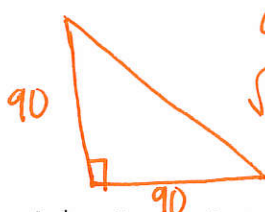
$$13 = c^2$$

$$\sqrt{13} = c$$

$$\cos \theta = \frac{2}{\sqrt{13}}$$

$$\frac{2 \cdot \sqrt{13}}{\sqrt{13} \cdot \sqrt{13}} = \frac{2\sqrt{13}}{13}$$

37) A baseball diamond is a square with sides of 90 feet. What is the shortest distance, to the nearest tenth of a foot, between first base and third base?

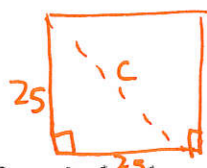


$$90^2 + 90^2 = c^2$$

$$\sqrt{16200} = c$$

$$c \approx 127.3 \text{ ft}$$

38) You have a square garden that is 25 feet on each side. You want to construct a sidewalk that goes from one corner to the other. How long will this sidewalk need to be?

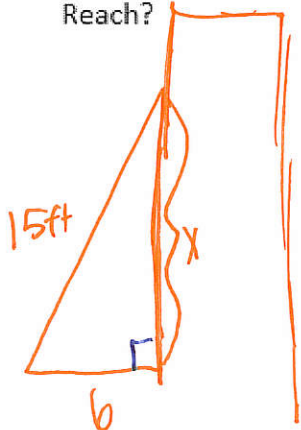


$$25^2 + 25^2 = c^2$$

$$\sqrt{1250} = c$$

$$c \approx 35.4 \text{ ft}$$

39) A 15-foot ladder is leaning against a building. The bottom of the ladder is 6 feet from the building. How far up the building will the ladder reach?



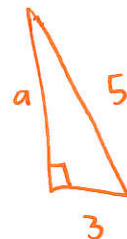
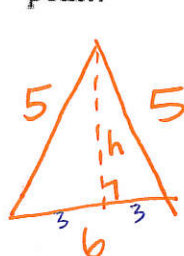
$$x^2 + 6^2 = 15^2$$

$$x^2 + 36 = 225$$

$$x^2 = 189$$

$$x = 13.7 \text{ ft}$$

40) Oscar's dog house is shaped like a tent. The slanted sides are both 5 feet long and the bottom of the house is 6 feet across. What is the height of the dog house, in feet, at its tallest point?



$$a^2 + 3^2 = 5^2$$

$$a^2 + 9 = 25$$

$$a^2 = 16$$

$$a = 4 \text{ ft}$$