

Trig Ratios inside Q1 pg 227 1-18 Evens

$$2. \sin \theta = \frac{2\sqrt{14}}{15} \quad \csc \theta = \frac{15}{2\sqrt{14}} \cdot \frac{\sqrt{14}}{\sqrt{14}} = \frac{15\sqrt{14}}{28}$$

$$\cos \theta = \frac{13}{15} \quad \sec \theta = \frac{15}{13}$$

$$\tan \theta = \frac{2\sqrt{14}}{13} \quad \cot \theta = \frac{13}{2\sqrt{14}} \cdot \frac{\sqrt{14}}{\sqrt{14}} = \frac{13\sqrt{14}}{28}$$

$$4. \sin \theta = \frac{12}{37} \quad \csc \theta = \frac{37}{12}$$

$$\cos \theta = \frac{35}{37} \quad \sec \theta = \frac{37}{35}$$

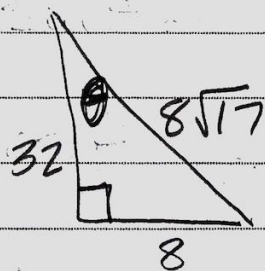
$$\tan \theta = \frac{12}{35} \quad \cot \theta = \frac{35}{12}$$

$$6. \sin \theta = \frac{30}{35} = \frac{6}{7} \quad \csc \theta = \frac{7}{6}$$

$$\cos \theta = \frac{5\sqrt{13}}{35} = \frac{\sqrt{13}}{7} \quad \sec \theta = \frac{7}{\sqrt{13}} \cdot \frac{\sqrt{13}}{\sqrt{13}} = \frac{7\sqrt{13}}{13}$$

$$\tan \theta = \frac{306}{2\sqrt{13}} \cdot \frac{\sqrt{13}}{\sqrt{13}} = \frac{6\sqrt{13}}{13} \quad \cot \theta = \frac{\sqrt{13}}{6}$$

8.

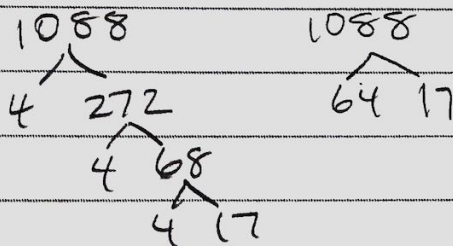


$$a^2 + b^2 = c^2$$

$$8^2 + 32^2 = c^2$$

$$64 + 1024 = c^2$$

$$1088 = c^2 \quad c = \sqrt{1088} = \sqrt{64 \cdot 17} = 8\sqrt{17}$$

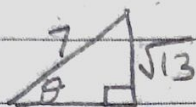


$$\sin \theta = \frac{8}{8\sqrt{17}} \cdot \frac{\sqrt{17}}{\sqrt{17}} = \frac{\sqrt{17}}{17} \quad \csc \theta = \sqrt{17}$$

$$\cos \theta = \frac{32}{8\sqrt{17}} = \frac{4}{\sqrt{17}} \cdot \frac{\sqrt{17}}{\sqrt{17}} = \frac{4\sqrt{17}}{17} \quad \sec \theta = \frac{\sqrt{17}}{4}$$

$$\tan \theta = \frac{8}{32} = \frac{1}{4} \quad \cot \theta = 4$$

10.



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

$$36 + b^2 = 49$$

$$b^2 = 13 \quad b = \sqrt{13}$$

$$\sin \theta = \frac{\sqrt{13}}{7}$$

$$\csc \theta = \frac{7}{\sqrt{13}} \cdot \frac{\sqrt{13}}{\sqrt{13}} = \frac{7\sqrt{13}}{13}$$

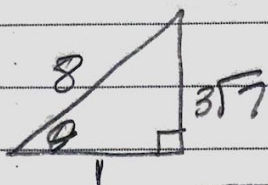
$$\cos \theta = \frac{6}{7}$$

$$\sec \theta = \frac{7}{6}$$

$$\tan \theta = \frac{\sqrt{13}}{6}$$

$$\cot \theta = \frac{6}{\sqrt{13}} \cdot \frac{\sqrt{13}}{\sqrt{13}} = \frac{6\sqrt{13}}{13}$$

12.



$$\sec \theta = 8 \Rightarrow \cos \theta = \frac{1}{8} \quad a$$

$$1^2 + b^2 = 8^2$$

$$b^2 = 63$$

$$b = \sqrt{63} = \sqrt{9 \cdot 7} = 3\sqrt{7}$$

$$\sin \theta = \frac{3\sqrt{7}}{8}$$

$$\csc \theta = \frac{8}{3\sqrt{7}} \cdot \frac{\sqrt{7}}{\sqrt{7}} = \frac{8\sqrt{7}}{21}$$

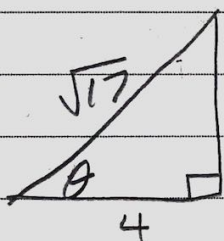
$$\cos \theta = \frac{1}{8}$$

$$\sec \theta = 8$$

$$\tan \theta = \frac{3\sqrt{7}}{1}$$

$$\cot \theta = \frac{1}{3\sqrt{7}} \cdot \frac{\sqrt{7}}{\sqrt{7}} = \frac{\sqrt{7}}{21}$$

14.



$$1^2 + 4^2 = c^2$$

$$17 = c^2$$

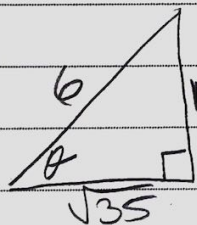
$$c = \sqrt{17}$$

$$\sin \theta = \frac{1}{\sqrt{17}} \cdot \frac{\sqrt{17}}{\sqrt{17}} = \frac{\sqrt{17}}{17} \quad \csc \theta = \frac{17}{\sqrt{17}}$$

$$\cos \theta = \frac{4}{\sqrt{17}} \cdot \frac{\sqrt{17}}{\sqrt{17}} = \frac{4\sqrt{17}}{17} \quad \sec \theta = \frac{17}{4}$$

$$\tan \theta = \frac{1}{4} \quad \cot \theta = 4$$

16.



$$\csc \theta = \frac{6}{1}$$

$$\sin \theta = \frac{1}{6} \quad a$$

$$1^2 + b^2 = 6^2$$

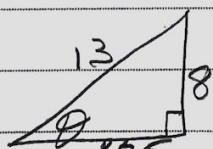
$$b^2 = 35 \quad b = \sqrt{35}$$

$$\sin \theta = \frac{1}{6} \quad \csc \theta = 6$$

$$\cos \theta = \frac{\sqrt{35}}{6} \quad \sec \theta = \frac{6}{\sqrt{35}} \cdot \frac{\sqrt{35}}{\sqrt{35}} = \frac{6\sqrt{35}}{35}$$

$$\tan \theta = \frac{1}{\sqrt{35}} \cdot \frac{\sqrt{35}}{\sqrt{35}} = \frac{\sqrt{35}}{35} \quad \cot \theta = \sqrt{35}$$

18.



$$8^2 + b^2 = 13^2$$

$$64 + b^2 = 169$$

$$b^2 = 105 \quad b = \sqrt{105}$$

$$\sin \theta = \frac{8}{13}$$

$$\csc \theta = \frac{13}{8}$$

$$\cos \theta = \frac{\sqrt{105}}{13}$$

$$\sec \theta = \frac{13}{\sqrt{105}} = \frac{13\sqrt{105}}{105}$$

$$\tan \theta = \frac{8}{\sqrt{105}} = \frac{8\sqrt{105}}{105}$$

$$\cot \theta = \frac{\sqrt{105}}{8}$$