PRACTICE – Acute, Obtuse, Reflex angles NAME:

1. Predict whether each value will be positive or negative

a) $\cos 45^\circ$ b) $\tan 125^\circ$ c) $\sin 93^\circ$

d) $\tan 35^\circ$ e) $\sin 42^\circ$ f) $\cos 175^\circ$

2. Angle B is between 0° and 360°, and $\cos B = -\frac{3}{8}$

a) How many values of $\angle B$ are there?

b) Is $\angle B$ acute or obtuse or reflex in Quad III or reflex in Quad IV?

c) Calculate the measures of $\angle B$.

3. Angle A is between 0° and 360°, and $\sin A = \frac{5}{8}$

a) How many values of $\angle A$ are there?

b) Is $\angle A$ acute or obtuse or reflex in Quad III or reflex in Quad IV?

c) Calculate the measures of $\angle A$.

4. Angle C is between 0° and 360°, and $\tan C = -\frac{7}{10}$

a) How many values of $\angle C$ are there?
b) Is $\angle C$ acute or obtuse or reflex in Quad III or reflex in Quad IV?
c) Calculate the measures of $\angle C$.

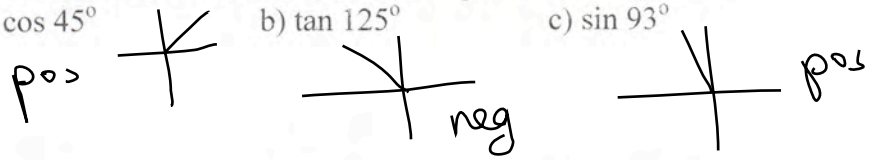
5. Each $\angle A$ is between 0° and 360°. Find the possible values of $\angle A$.

a) $\sin A = \frac{1}{2}$ b) tan $A = \frac{5}{7}$ c) $\sin A = -0.457$ d) cos $A = -0.837$

PRACTICE – Acute, Obtuse, Reflex angles NAME: ANSWERS

1. Predict whether each value will be positive or negative

a) $\cos 45^\circ$ b) $\tan 125^\circ$ c) $\sin 93^\circ$



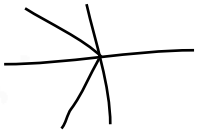
d) $\tan 35^\circ$ e) $\sin 42^\circ$ f) $\cos 175^\circ$

2. Angle B is between 0° and 360°, and $\cos B = -\frac{3}{8}$

a) How many values of $\angle B$ are there? TWO

b) Is $\angle B$ acute or obtuse or reflex in Quad III or reflex in Quad IV?

c) Calculate the measures of $\angle B$.



rough work $\cos^{-1}\left(\frac{-3}{8}\right) = 112^\circ$ already obtuse

$\therefore \theta_1 \doteq 112^\circ$

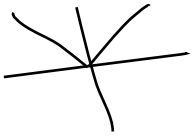
$\theta_2 \doteq 360^\circ - 112^\circ = 248^\circ$

3. Angle A is between 0° and 360°, and $\sin A = \frac{5}{8}$

a) How many values of $\angle A$ are there? TWO

b) Is $\angle A$ acute or obtuse or reflex in Quad III or reflex in Quad IV?

c) Calculate the measures of $\angle A$.



rough work $\sin^{-1}\left(\frac{5}{8}\right) \doteq 39^\circ$ acute

$\therefore \theta_1 \doteq 39^\circ$

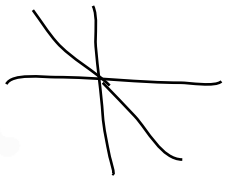
$\theta_2 \doteq 180^\circ - 39^\circ = 141^\circ$

4. Angle C is between 0° and 360°, and $\tan C = -\frac{7}{10}$

a) How many values of $\angle C$ are there? TWO

b) Is $\angle C$ acute or obtuse or reflex in Quad III or reflex in Quad IV?

c) Calculate the measures of $\angle C$.



rough work $\tan^{-1}\left(\frac{-7}{10}\right) = -35^\circ$ acute and neg – not what we need (each related acute is 35°)

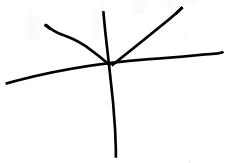
$\therefore \theta_1 \doteq 145^\circ$

$\theta_2 \doteq 325^\circ$

5. Each $\angle A$ is between 0° and 360°. Find the possible values of $\angle A$.

a) $\sin A = \frac{1}{2}$ b) ~~sin~~ tan $A = \frac{5}{7}$ c) $\sin A = -0.457$ d) ~~sin~~ cos $A = -0.837$

(a)



$\sin^{-1}\left(\frac{1}{2}\right) = 30^\circ$

$\theta_1 = 30^\circ$

$\theta_2 = 150^\circ$

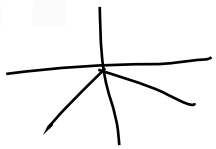
(b)

$\tan^{-1}\left(\frac{5}{7}\right) = 36^\circ$

$\theta_1 = 36^\circ$

$\theta_2 = 216^\circ$

(c)

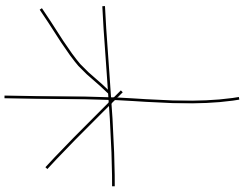


$\sin^{-1}(-0.457) = -27^\circ$

$\theta_1 = 333^\circ$

$\theta_2 = 207^\circ$

(d)



$\cos^{-1}(-0.837) = 147^\circ$

$\theta_1 = 147^\circ$

$\theta_2 = 213^\circ$