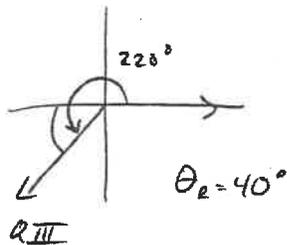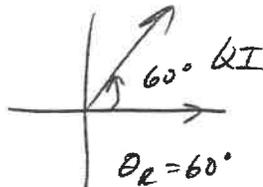PREC11
Quiz2B.1/2B.2(F)

Name **Key**

1. Sketch each angle in standard position. State the quadrant of the terminal arm and the reference angle θ_R for each:
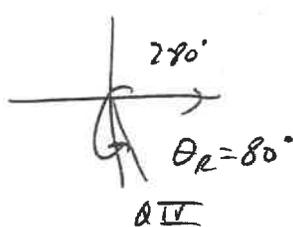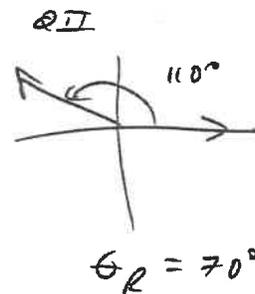
a) 220°
b) 60°
c) 280°
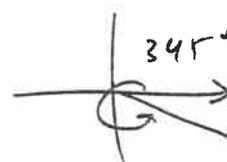d) 110°

$Q\,I$

$220°$
$\theta_R = 40°$
$Q\,III$

$60°$ $Q\,I$
$\theta_R = 60°$

$280°$
$\theta_R = 80°$
$Q\,IV$

$110°$
$\theta_R = 70°$
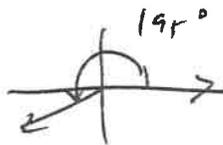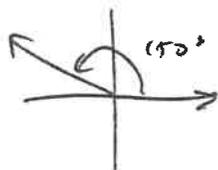
2. Sketch and state four standard position angles with a reference angle of 15°:

$15°$

$165°$

$195°$

$345°$
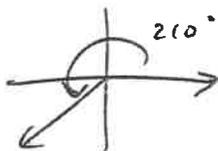
3. Sketch and determine the angle in standard position when the terminal arm of standard position angle $\theta = 150°$ is reflected:
a) in the y-axis.
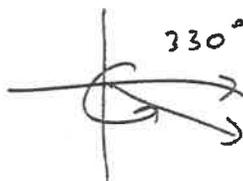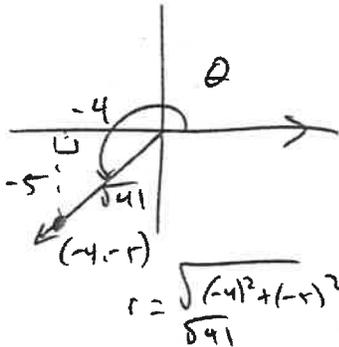
$150°$

$30°$

b) in the x-axis.

$210°$
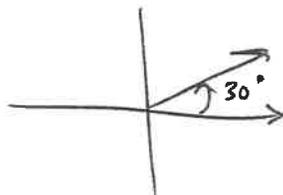
c) in the y-axis and then in the x axis.

$330°$

over »

4. The point (-4, -5) is in the terminal arm of angle θ in standard position. Sketch θ and determine the ratios for $\sin \theta$, $\cos \theta$ and $\tan \theta$ both as exact values and approximations to 4 decimal places.
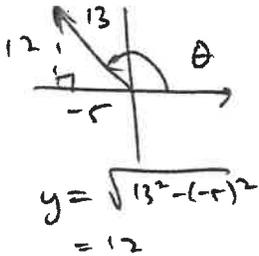

$$\sin \theta = -\frac{5}{\sqrt{41}} \approx -0.7809$$

$$\cos \theta = -\frac{4}{\sqrt{41}} \approx -0.6247$$

$$\tan \theta = \frac{5}{4} = 1.25$$

$$r = \sqrt{(-4)^2 + (-5)^2}$$
$$\sqrt{41}$$

5. Suppose θ is an angle in standard position with terminal arm in quadrant II and $\cos \theta = -\frac{5}{13}$, find:

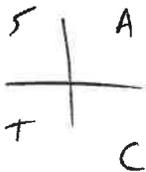a) possible coordinates of A, a point on the terminal arm.

$$A(-5, 12)$$

$$y = \sqrt{13^2 - (-5)^2}$$
$$= 12$$

b) exact values of $\sin \theta$ and $\tan \theta$

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

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

6. If $\sin \theta < 0$ and $\tan \theta > 0$, then the terminal arm of angle θ in standard position is in which quadrant?

$$\sin \theta < 0 \qquad \tan \theta > 0$$
$$Q\ \underline{III}\ \underline{IV} \qquad Q\ I\ \underline{III}$$

$$\boxed{QIII}$$