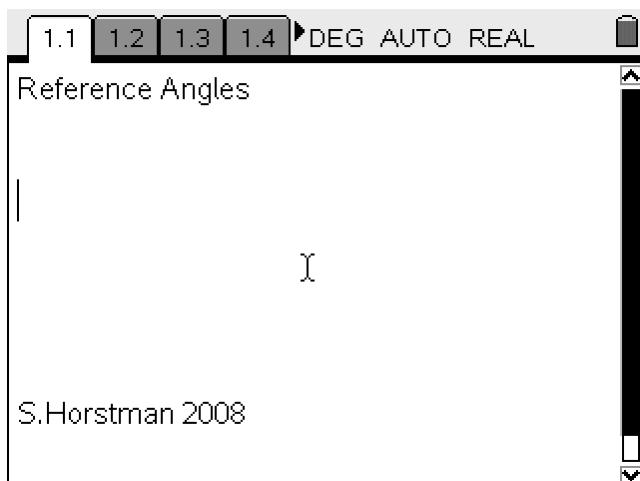
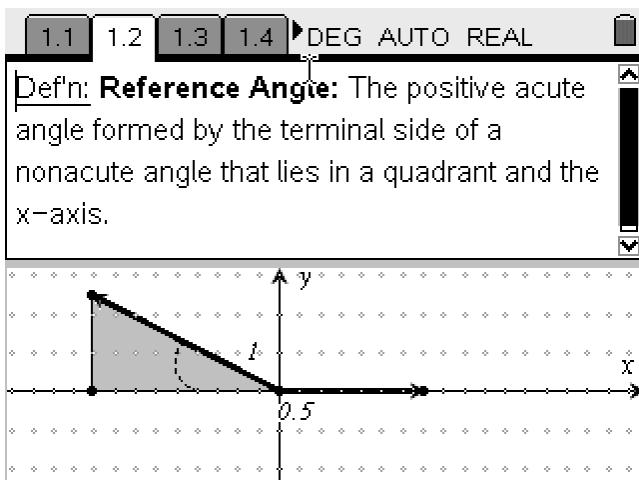


Reference Angles Ti-Nspire Screen Shots

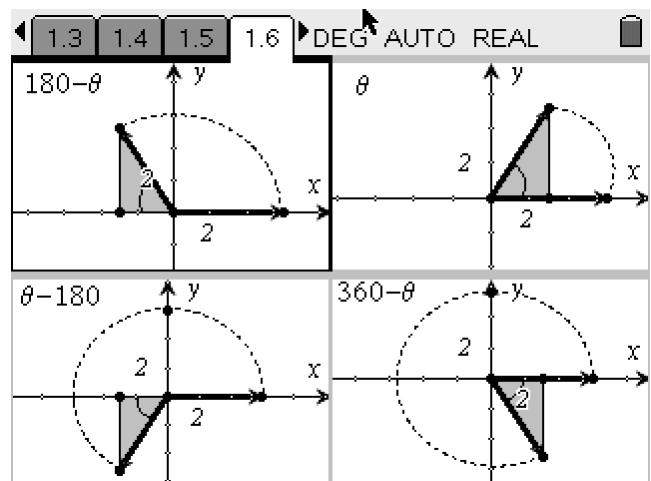
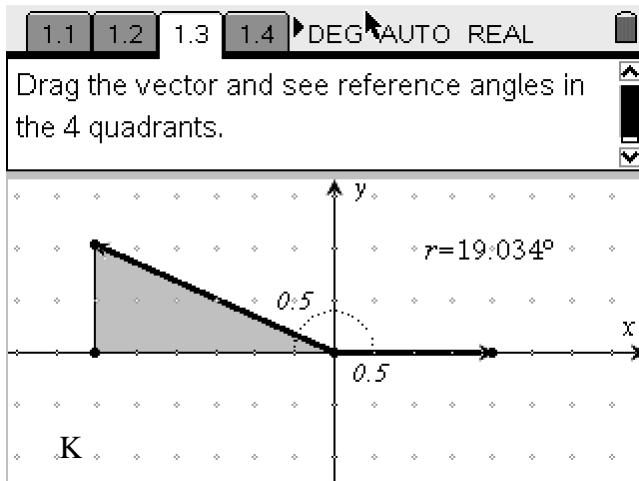
S.Horstman

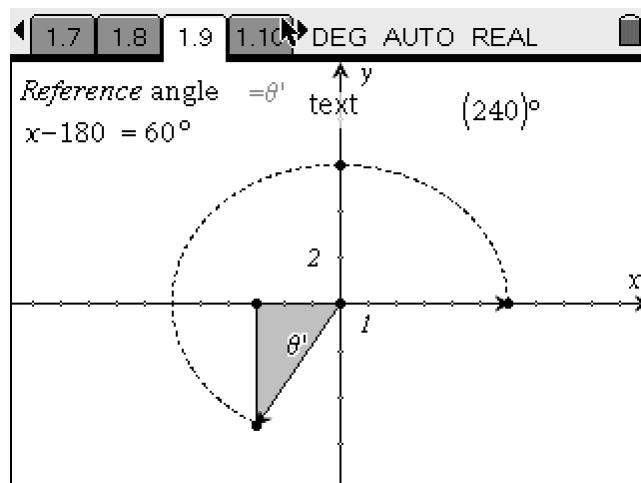
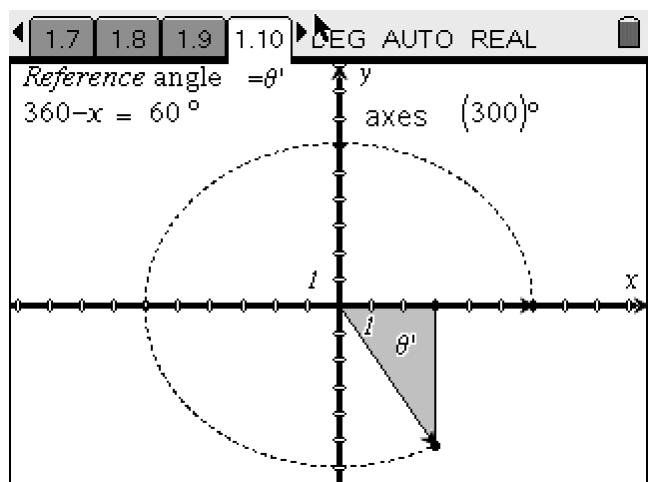
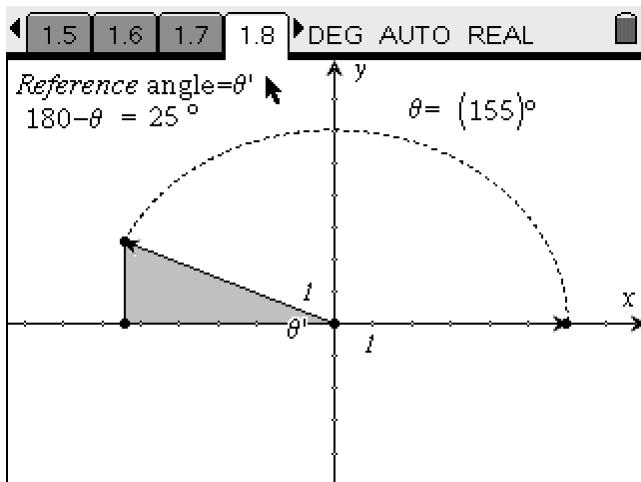
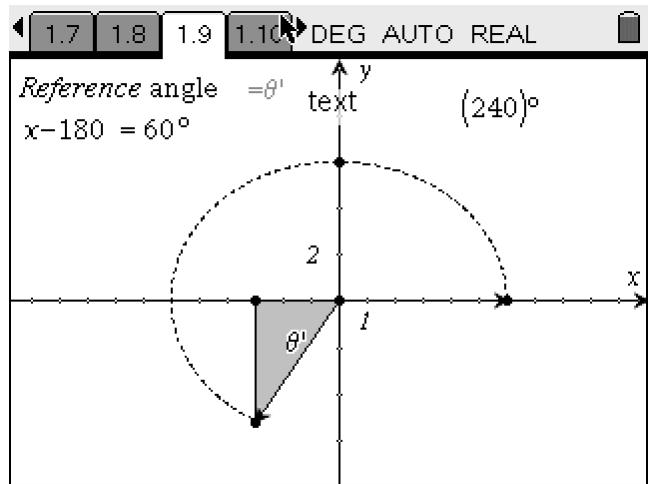
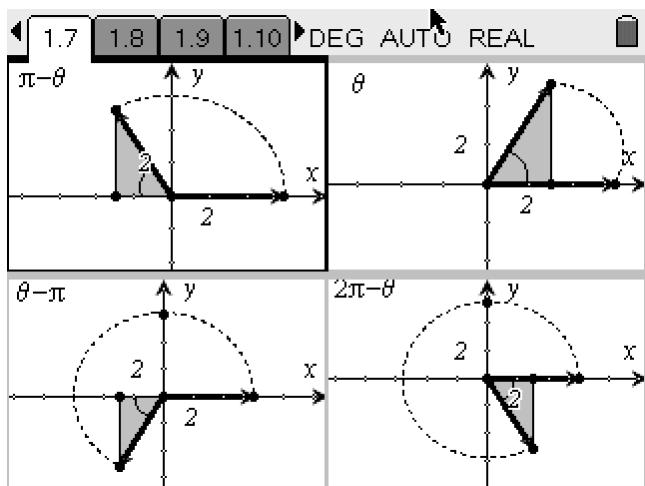


1.1 1.2 1.3 1.4 DEG AUTO REAL
 If the angle is in **Quadrant I**, the reference angle is the **same angle**.
 If the angle lies in **Quadrant II**, the reference angle is $180^\circ - \theta$ or $\pi - \theta$.
 If the angle lies in **Quadrant III**, the reference angle is $\theta - 180^\circ$ or $\theta - \pi$.
 If the angle lies in **Quadrant IV**, the reference angle is $360^\circ - \theta$ or $2\pi - \theta$.



1.2 1.3 1.4 1.5 DEG AUTO REAL
 On the next 2 pages, observe the angles in each Quadrant and their reference angles, r . The reference angle is represented by the shaded triangle's angle whose vertex is at the origin.





- 1.10)
- Find the reference angle for 250°
 - Find the reference angle for 119°
 - Find the reference angle for 345°
- Answer**
- a.) 250° is in Quadrant III, so subtract 180°

◀ 1.9 1.10 1.11 1.12 ▶ DEG AUTO REAL

1.11)

- Find the reference angle for $\frac{6\pi}{7}$.
- Find the reference angle for $\frac{5\pi}{4}$.
- Find the reference angle for $\frac{13\pi}{8}$.

Answer 

◀ 1.12 1.13 1.14 1.15 ▶ DEG AUTO REAL

Question

Example: 1.14)

- Find the reference angle for $\frac{13\pi}{4}$.
- Find the reference angle for $\frac{35\pi}{6}$.

Answer 

◀ 1.10 1.11 1.12 1.13 ▶ DEG AUTO REAL

To find reference angles for angles greater than 360° or 2π :

- Find a positive angle less than 360° or 2π that is **coterminal** with the given angle.
- Draw angle in **standard position**.
- Use the drawing to find the **reference angle** for this given angle.

◀ 1.13 1.14 1.15 1.16 ▶ DEG AUTO REAL

Question

1.15) Find the measure of the reference angles for each angle:

- 510° , b) 920° , c) 410° , d) 585°

Answer 

◀ 1.11 1.12 1.13 1.14 ▶ DEG AUTO REAL

Question

example 1.13)

- Find the reference angle for 480° .
- Find the reference angle for 1050° .

Answer 

◀ 1.14 1.15 1.16 1.17 ▶ DEG AUTO REAL

Question

1.16) Find the measure of the reference angles for each angle:

- $\frac{5\pi}{3}$, b) $\frac{4\pi}{5}$, c) $\frac{7\pi}{6}$, d) $\frac{11\pi}{4}$

Answer 

◀ 1.15 1.16 1.17 1.18 ▶ DEG AUTO REAL

To find the reference angle for a negative angle:

1. Find the **positive coterminal angle** that is between 0° and 360° or 0 and 2π .
2. Draw the angle in **standard position**.
3. Use the drawing to find the **reference angle** for this given angle.

◀ 1.16 1.17 1.18 1.19 ▶ DEG AUTO REAL

Question

1.18)Find the reference angles for each of the following:

a.) -280°	e.) $-\pi/5$
b.) -40°	f.) $-\pi/3$
c.) -800°	g.) $-\pi/4$
d.) -140°	h.) $-\pi/4$