

## W2 – Ratios for Angles Greater than $90^\circ$

MCR3U

Jensen

1) Sketch each angle in standard position and determine the related acute angle.

a)  $135^\circ$

b)  $210^\circ$

c)  $315^\circ$

d)  $-30^\circ$

e)  $-225^\circ$

f)  $-330^\circ$

g)  $150^\circ$

h)  $-120^\circ$

i)  $105^\circ$

j)  $-163^\circ$

k)  $-141^\circ$

l)  $-280^\circ$

2) State the value of each ratio **exactly**.

a)  $\sin 225^\circ$

c)  $\sin 270^\circ$

b)  $\cos 240^\circ$

d)  $\tan 300^\circ$

e)  $\cos 180^\circ$

3) Point P (-9, 4) is on the terminal arm of an angle in standard position.

a) Sketch the principal angle,  $\theta$ .

b) What is the measure of  $\beta$ , the related acute angle to the nearest degree?

c) What is the measure of  $\theta$  to the nearest degree?

4) Point P (7, -24) is on the terminal arm of an angle in standard position.

a) Sketch the principal angle,  $\theta$ .

b) What is the measure of  $\beta$ , the related acute angle to the nearest degree?

c) What is the measure of  $\theta$  to the nearest degree?

## Answers

1) a)  $45^\circ$  b)  $30^\circ$  c)  $45^\circ$  d)  $30^\circ$  e)  $45^\circ$  f)  $30^\circ$  g)  $30^\circ$  h)  $60^\circ$  i)  $75^\circ$  j)  $17^\circ$  k)  $39^\circ$  l)  $80^\circ$

2) a)  $-\frac{1}{\sqrt{2}}$  b)  $-\frac{1}{2}$  c)  $-1$  d)  $-\sqrt{3}$  e)  $-1$

3) b)  $24^\circ$  c)  $156^\circ$

4) b)  $74^\circ$  c)  $286^\circ$