Prep for Final Exam

Grading at WCC

90-100 A
85-89 B+
80-84 B
75-79 C+
70-74 C
66-69 D
<60 F

Format of Final Exam

Pt I
5 of 6 @ 8pt | 40pt.

Pt II
5 of 6 @ 12pt | 60pt

Computing your Final Grade

$$\frac{2}{3}CA + \frac{1}{3}FE = FG$$

where:
CA represents Class Average
FE represents Final Exam
FG represent Final Grade

This means that your Final Exam contributes a significant portion of your Final Grade. This is a chance to improve your grade.

Have CA = 84. Want B+

What grade needed on FE?

$$\frac{2}{3}CA + \frac{1}{3}FE = FG$$

$$2CA + FE = 3FG$$

$$FE = 3FG - 2CA$$

Have CA = 84. Want B+

What grade needed on FE?

$$\frac{2}{3}CA + \frac{1}{3}FE = FG$$

$$2CA + FE = 3FG$$

$$FE = 3FG - 2CA$$

$$= 3(85) - 2(84)$$

$$= 255 - 168$$

$$= 87$$

need at least 87

Some of the sections studied this semester have been quizzed but not tested. You should focus your review on these sections.

2.8 3.1 (1.5)

4.1 4.2 4.3 4.4 4.5

5.1 5.2 5.3 5.5

Can start review with a few questions.

Which is true?

$x \log 10^{2x} = 2x$ | $x \log 10^{2x} = 2x^2$

Can start review with a few questions.

Which is true?

$x \log 10^{2x} = 2x$ (5)

$x \log 10^{2x} = 2x^2$ (1)

$x[2x \log 10]$

$2x^2 (1)$

$2x^2$

$\log b^n = n \log b$

Can start review with a few questions.

Which is true?

$\ln(8x^3) = 3\ln(2x)$

$\ln(8x^3) = 3\ln(8x)$

Can start review with a few questions.

Which is true?

$\ln(8x^3) = 3\ln(2x)$

$\ln(8x^3) = 3\ln(8x)$

$\ln(2^3x^3)$

$\ln(2x)^3$

$3\ln(2x) =$

Can start review with a few questions.

Which is true?

$\ln x + \ln(2x) = \ln(3x)$

$\ln x + \ln(2x) = \ln(2x^2)$

Can start review with a few questions.

Which is true?

$\ln x + \ln(2x) = \ln(3x)$

$\ln x + \ln(2x) = \ln(2x^2)$

$\ln(x \cdot 2x)$

$\ln(2x^2)$

Can start review with a few questions.

Which is true?

$\log\left(\frac{x^2y}{z^2}\right) = 2\log x + \log y - 2\log z$

$\log\left(\frac{x^2y}{z^2}\right) = \frac{\log(x^2y)}{\log(z^2)}$

Can start review with a few questions.

Which is true?

$\log\left(\frac{x^2y}{z^2}\right) = 2\log x + \log y - 2\log z$

$\log\left(\frac{x^2y}{z^2}\right) = \frac{\log(x^2y)}{\log(z^2)}$

$\log(x^2y) - \log z^2$

$\log x^2 + \log y - \log z^2 = 2\log x + \log y - 2\log z$

Evaluate: $\log_{32}8$

Let $\log_{32}8 = x$ and convert to exponential form

Evaluate: $\log_{32}8$

$\log_{32}8 = x$

$32^x = 8$

$(2^5)^x = 2^3$

$2^{5x} = 2^3$

$5x = 3$

$x = 3/5$

$5^x = 17$ F: x

$5^x = 17$ F: X

OR

$\log_5 17 = x$

$\log 5^x = \log 17$

$x \log 5 = \log 17$

$x = \frac{\log 17}{\log 5}$

same as

$\log_3 x = 4$ F: x

$\log_3 x = 4$

$3^4 = x$

$(3^2)^2$

9^2

$81 = x$

$\ln \sqrt{x+3} = 1 \quad F: x$

$\ln\sqrt{x+3} = 1$ F : x

$\ln (x+3)^{1/2} = 1$

$\frac{1}{2}\ln(x+3) = 1$

$\ln(x+3) = 2$

$e^2 = x+3$

$x = e^2 - 3$

G : $5^{(2-x)} = \frac{1}{125}$ F: x

G: $5^{2-x} = \frac{1}{125}$ F: Solve for x.

$5^{2-x} = \frac{1}{5^3} = 5^{-3}$

$2-x = -3$

$5 = x$

$9^x = \frac{1}{\sqrt[3]{3}} = \frac{1}{3^{1/3}} = 3^{-1/3}$

$$9^x = \frac{1}{\sqrt[3]{3}} = \frac{1}{3^{1/3}} = 3^{-1/3}$$

$$(3^2)^x$$

$$3^{2x} = 3^{-1/3}$$

$$2x = -\frac{1}{3}$$

$$x = -\frac{1}{6}$$

Solve for x: $19^x = 143$

28. Solve for x: $19^x = 143$

direct

$\log 19^x = \log 143$

$x \log 19 = \log 143$

$x = \frac{\log 143}{\log 19}$

$\log_{19} 143 = x$

$2 \log x - \log 7 = \log 112$

$2\log x - \log 7 = \log 112$

$\log \frac{x^2}{7} = \log 112$

$\frac{x^2}{7} = 112$

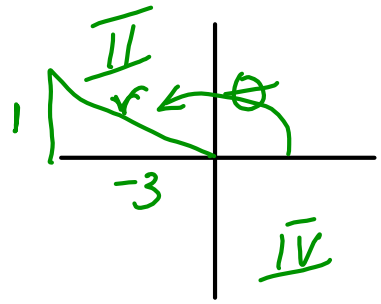
$x^2 = 784$

$x = \pm 28$

only x = + 28 is in the domain

G: $\tan\theta = -\frac{1}{3}$, $\sin\theta > 0$ F: $\cos\theta$

G: $\tan\theta = -\frac{1}{3}$, $\sin\theta > 0$ F: $\cos\theta$



$\tan\theta = -\frac{1}{3} = \frac{y}{x}$

negative tanθ means x and y have different signs > QII or QIV

sinθ >0 when y>0 ∴ QII

so y = +1, x = -3 Find r

$r^2 = x^2 + y^2$

$= (-3)^2 + 1^2$

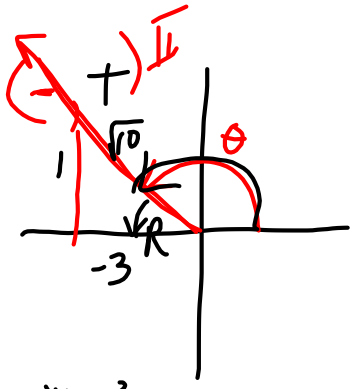
$= 9 + 1 = 10$

$\therefore r = \sqrt{10}$

$\cos\theta = \frac{x}{r} = \frac{-3}{\sqrt{10}}$

G: $\tan\theta = -\frac{1}{3}$, $\sin\theta > 0$ (I, II; y>0)

F: all other trig functions of θ



$x = -3$

$y = 1$

$r = \sqrt{10}$

$r^2 = x^2 + y^2$

$= (-3)^2 + 1^2$

$= 9 + 1 = 10$

$\sin\theta = \frac{y}{r}$

$\tan\theta = \frac{y}{x}$

F:

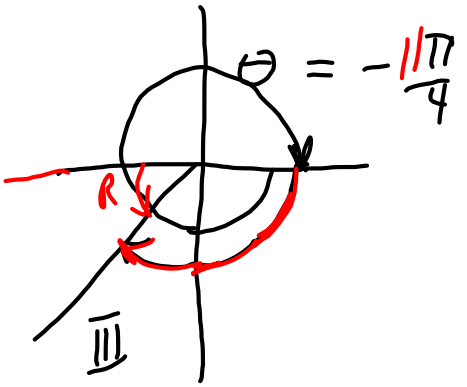
$\cot\theta = -3$	
$\sin\theta$	$\csc\theta$
$\cos\theta$	$\sec\theta$

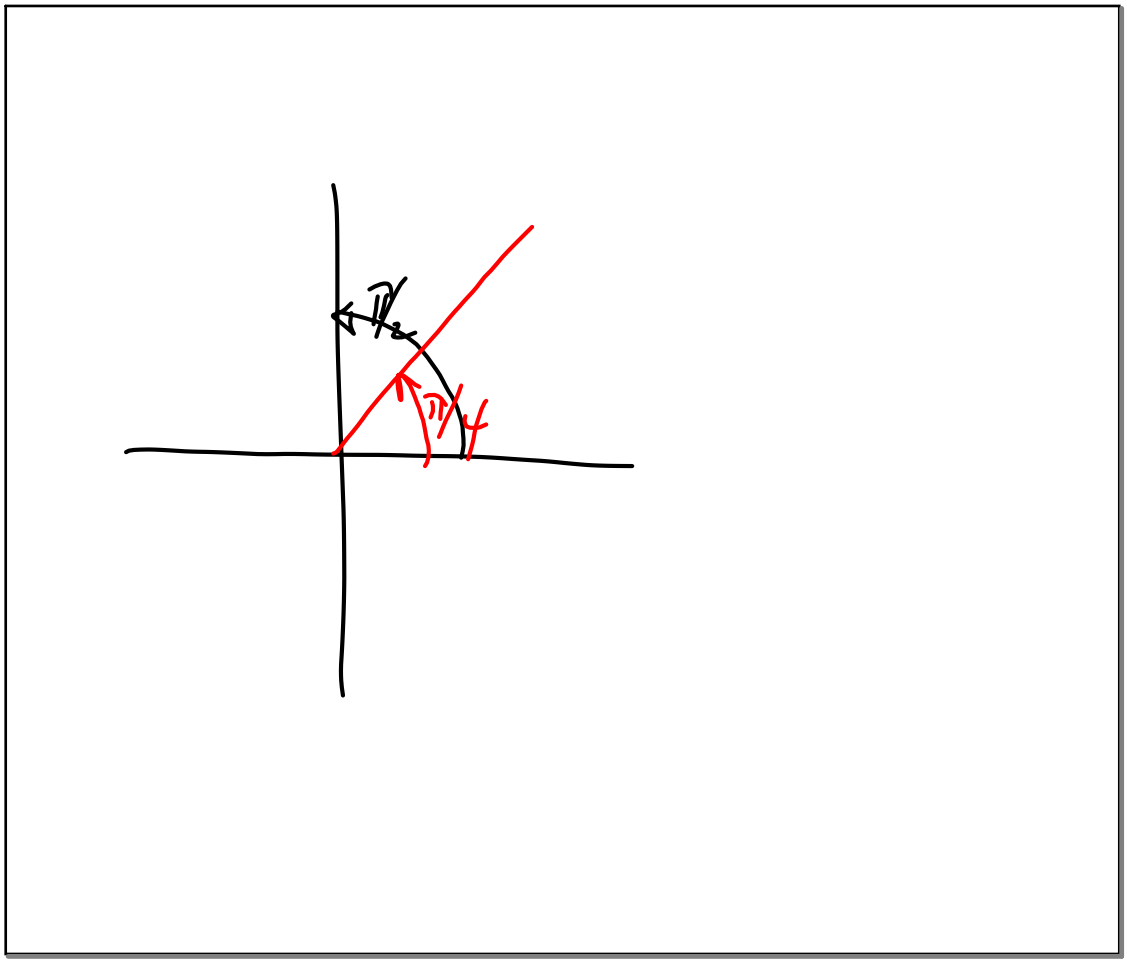
$\sin\theta = \frac{y}{r} = \frac{1}{\sqrt{10}}$ $\csc\theta = \sqrt{10}$

$\cos\theta = \frac{x}{r} = \frac{-3}{\sqrt{10}}$ $\sec\theta = \frac{\sqrt{10}}{3}$

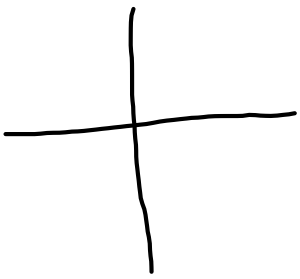
G: $-\frac{11\pi}{4}$ F: R=

G: $-\frac{11\pi}{4}$ F: R $\frac{\pi}{4} = 45°$

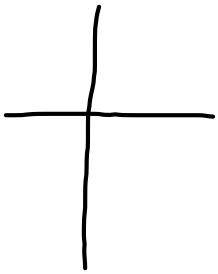




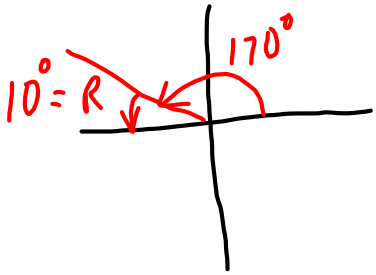
G: 170°



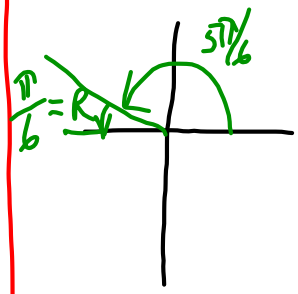
G: 5π/6



G: 170°



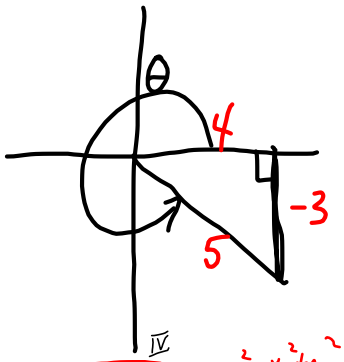
G: $\frac{5\pi}{6}$



G: $\cos\theta = \frac{4}{5}$, $\tan\theta < 0$ F: all other trig functions.

G: $\cos\theta = \frac{4}{5} = \frac{x}{r}$ $\tan\theta < 0$ F: all other trig functions.

$x > 0$ $y < 0$



$x = 4$
$y = -3$
$r = 5$

$r^2 = x^2 + y^2$
$5^2 = 4^2 + y^2$
$25 = 16 + y^2$
$y^2 = 9$
$y = -3$

$\cos\theta = \frac{4}{5}$, $\sec\theta = \frac{5}{4}$

$\sin\theta = \frac{y}{r} = \frac{-3}{5}$, $\csc\theta = -\frac{5}{3}$

$\tan\theta = \frac{y}{x} = \frac{-3}{4}$, $\cot\theta = -\frac{4}{3}$

$\cos\theta = \frac{x}{r}$

$\tan\theta = \frac{y}{x}$