

Change 63.58° to DMS

What is: The compliment of 50° ? The supplement of $\frac{\pi}{8}$?

Find the reference angle of the following:

330°

60°

235°

-450°

-30°

$\frac{\pi}{6}$

$\frac{-\pi}{4}$

$\frac{13\pi}{6}$

$\frac{-5\pi}{3}$

Draw a 210° angle of rotation and lable the side lengths.
What quadrant is it in?

Change 225° to radians.

Change $\frac{\pi}{8}$ to degrees.

Find the exact value of:

$\sin 60^\circ$

$\tan 300^\circ$

$\sec 270^\circ$

$\cot 90^\circ$

$\cos \frac{2\pi}{3}$

$\csc \frac{5\pi}{4}$

$\tan \frac{\pi}{6}$

$\sin \frac{11\pi}{6}$

$\cot \frac{-\pi}{4}$

$\sec \frac{-\pi}{3}$

Identify the conic section and state the coordinates of the center or vertex. Then graph and state the coordiantes of all important features.

$x^2 - 8x + y^2 + 12y + 3 = 0$

$(x - 4)^2 = -16(y + 9)$

$5x - 4y = x - 6$

$3x^2 - 12x - 4y^2 - 8y - 12 = 0$

$\frac{(x-6)^2}{25} + \frac{(y+2)^2}{9} = 1$

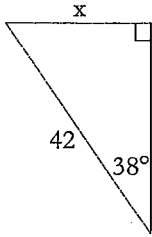
* Find the exact values of the other five trig. functions, given that $\sin \theta = \frac{4}{5}$ and is in Quadrant II.

Draw the triangle. $\cos \theta =$ _____ $\tan \theta =$ _____

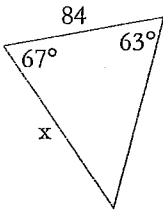
$\csc \theta =$ _____ $\sec \theta =$ _____ $\cot \theta =$ _____

Find θ in degrees and radians if $-\frac{\pi}{2} \leq \theta \leq \frac{\pi}{2}$ and $\sin \theta = \frac{1}{2}$.

Solve each triangle for x . Round to the nearest tenth if necessary:



$x =$ _____



$x =$ _____

Find the area of the above triangle. Area = _____

Find the first 4 terms of the sequence: $a_n = (-1)^n(2n + 1)$

$a_1 =$ _____ $a_2 =$ _____ $a_3 =$ _____ $a_4 =$ _____

Tell whether the sequence is arithmetic, geometric, or neither. Explain.

- a) 5, 9, 13, 17, ... b) 3, 6, 12, 24, ... c) 40, 10, $\frac{5}{2}$, $\frac{5}{8}$, ... d) 4, 7, 12, 19, ...

Find the n^{th} term given the following information:

- a) $r = 5$, $a_2 = 200$ b) $a_1 = 144$, $a_3 = 16$ c) $d = 7$, $a_8 = 54$ d) $a_4 = 27$, $a_{11} = 69$
- Geometric*
- Arithmetic*

Sequences and Series:

$a_n = a_1 + (n - 1)d$

$S_n = \frac{n}{2}(a_1 + a_n)$

$a_n = a_1(r)^{n-1}$

$S_n = \frac{a_1(1-r^n)}{1-r}$

$S_\infty = \frac{a_1}{1-r}$

1. Mr. Farley wants to know the soda preference of the juniors at LHS, so 60 juniors are asked to name their favorite soda.
- State the population and sample.
 - How should the 60 juniors be selected to ensure that the sample is random?
 - Would this survey be representative of the soda preferences of the teachers? Why or why not?
2. Categorize the following sampling methods as stratified, systematic, cluster, convenience, or simple random.
- Pick a random sample of teachers and ask how many kids they have.
 - Take a random sample of five zip codes in Kansas. Count the number of pets every person has in each zip code.
 - Ask your friends at lunch what they're doing Friday night.
 - Divide the class up based on their ages and then select a random sample from each age group to survey their favorite colors.
 - Check the quality of every seventh car that comes off the assembly line.
3. Which of the following are types of histograms?
- A. Uniform B. Bimodal C. Symmetrical D. Skewed E. All of these
4. Which of the following are levels of measurement?
- A. Nominal B. Ordinal C. Interval D. Ratio
- E. Normal F. Ordinary G. Intermittent H. Rated
5. Given the following data set: 11, 29, 41, 46, 46, 46, 47, 49, 54, 54, 59, 60, find...
- the mean
 - the median
 - the mode
 - the range
6. Using the data in #5, make a...
- stem-and-leaf plot
 - make a box-and-whisker plot
7. Using the following table:
- | | | | | | | | |
|-----|---|---|---|---|---|---|---|
| x | 1 | 2 | 3 | 3 | 4 | 6 | 7 |
| y | 9 | 7 | 7 | 6 | 7 | 4 | 4 |
- Draw a scatterplot.
 - Find the equation of the least-squares line and graph it on the scatterplot.
 - Find and explain r , the correlation coefficient.
 - Find and explain r^2 , the coefficient of determination.
 - Use the equation of the least-squares line to predict y if $x = 27$.

13. If $\mu = 100$ and $\sigma = 10$, find:

a) $P(x \leq 80)$

b) $P(x \geq 90)$

c) $P(70 \leq x \leq 110)$

14. Speedy Jet Computer Printers have a mean life of 4 years with a standard deviation of 0.78 years.

a) Find the z -score associated with a life of 6.5 years.

b) Find $P(x \geq 6.5)$

Chapter 6:

24. Change 240° to radians.

25. Change $\frac{\pi}{4}$ radians to degrees.

26. Find the length of an arc with radius 10m. associated with an angle of $\frac{3\pi}{5}$ radians.

27. Find the linear speed of a point on a circle with a ten foot diameter rotating at 15 radians/sec. Convert to mph.

What is the angular velocity of the second hand of a clock in radians per hour?

28. Find the exact values of the other five trig functions given that $\sin \theta = -\frac{3}{5}$ and θ is in quadrant IV.

29. Find the exact values of the following:

a) $\csc \frac{5\pi}{4}$

b) $\cos 2\pi$

c) $\sec \frac{\pi}{2}$

d) $\cot 390^\circ$

e) $\tan 90^\circ$

f) $\sin 240^\circ$

g) $\sin \frac{11\pi}{6}$

h) $\cot \frac{5\pi}{3}$

i) $\csc -150^\circ$ k) $\sec 135^\circ$

30. Find the following for the function $f(x) = -2 \cos x + 1$

a) period

b) amplitude

c) vertical shift

d) is there a reflection?

31. Graph the following trig. functions:

a. $y = 2\sin x + 1$

b. $y = \cos 2x$

c. $y = -\cos x - 3$

Chapter 8:

32. What is the area of triangle ABC if $AB=10$, $BC=12$ and $\angle B=55^\circ$
33. a) What is the Law of Sines? b) What is the Law of Cosines?
34. Solve the following for the indicated side or angle only:
- | | | | | | |
|----|-----------------------|----|-----------------------|----|----------------|
| a) | $\angle C = 90^\circ$ | b) | $\angle A = 65^\circ$ | c) | $a = 36$ |
| | $\angle B = 70^\circ$ | | $\angle B = 85^\circ$ | | $b = 62$ |
| | $a = 36$ | | $b = 100$ | | $c = 41$ |
| | $c = ?$ | | $c = ?$ | | $\angle C = ?$ |

Chapter 11:

35. Find the first five terms, a_{11} , and a_{23} :
- | | |
|--------------------|-------------------------------------|
| a. $a_n = n^2 - 1$ | b. $a_n = a_{n-1} + n$ if $a_1 = 4$ |
|--------------------|-------------------------------------|
36. Express using sigma notation:
- | | |
|--------------------------------|----------------------|
| a. $4 + 8 + 12 + 16 + 20 + 24$ | b. $1 + 4 + 16 + 64$ |
|--------------------------------|----------------------|
37. Find the sum of the arithmetic series: $\sum_{n=1}^{23} (10 - 4n)$
38. Find the sum of the geometric series: $\sum_{n=1}^{21} 15 \cdot 2^n$
39. Do the following infinite geometric series have sums? Yes or no?
- | | |
|--|--|
| a. $36 + 18 + 9 + \frac{9}{2} + \frac{9}{4} + \dots$ | b. $\frac{1}{2} + \frac{4}{6} + \frac{16}{18} + \frac{64}{54} + \dots$ |
|--|--|
40. Find the sum in 39 a.

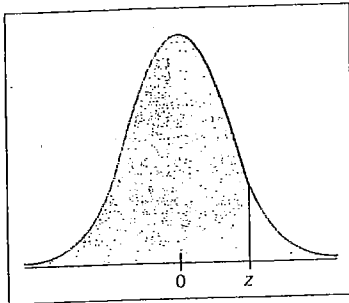


Table entry for z is the area to the left of z .

Areas of a Standard Normal Distribution *continued*

z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
0.0	.5000	.5040	.5080	.5120	.5160	.5199	.5239	.5279	.5319	.5359
0.1	.5398	.5438	.5478	.5517	.5557	.5596	.5636	.5675	.5714	.5753
0.2	.5793	.5832	.5871	.5910	.5948	.5987	.6026	.6064	.6103	.6141
0.3	.6179	.6217	.6255	.6293	.6331	.6368	.6406	.6443	.6480	.6517
0.4	.6554	.6591	.6628	.6664	.6700	.6736	.6772	.6808	.6844	.6879
0.5	.6915	.6950	.6985	.7019	.7054	.7088	.7123	.7157	.7190	.7224
0.6	.7257	.7291	.7324	.7357	.7389	.7422	.7454	.7486	.7517	.7549
0.7	.7580	.7611	.7642	.7673	.7704	.7734	.7764	.7794	.7823	.7852
0.8	.7881	.7910	.7939	.7967	.7995	.8023	.8051	.8078	.8106	.8133
0.9	.8159	.8186	.8212	.8238	.8264	.8289	.8315	.8340	.8365	.8389
1.0	.8413	.8438	.8461	.8485	.8508	.8531	.8554	.8577	.8599	.8621
1.1	.8643	.8665	.8686	.8708	.8729	.8749	.8770	.8790	.8810	.8830
1.2	.8849	.8869	.8888	.8907	.8925	.8944	.8962	.8980	.8997	.9015
1.3	.9032	.9049	.9066	.9082	.9099	.9115	.9131	.9147	.9162	.9177
1.4	.9192	.9207	.9222	.9236	.9251	.9265	.9279	.9292	.9306	.9319
1.5	.9332	.9345	.9357	.9370	.9382	.9394	.9406	.9418	.9429	.9441
1.6	.9452	.9463	.9474	.9484	.9495	.9505	.9515	.9525	.9535	.9545
1.7	.9554	.9564	.9573	.9582	.9591	.9599	.9608	.9616	.9625	.9633
1.8	.9641	.9649	.9656	.9664	.9671	.9678	.9686	.9693	.9699	.9706
1.9	.9713	.9719	.9726	.9732	.9738	.9744	.9750	.9756	.9761	.9767
2.0	.9772	.9778	.9783	.9788	.9793	.9798	.9803	.9808	.9812	.9817
2.1	.9821	.9826	.9830	.9834	.9838	.9842	.9846	.9850	.9854	.9857
2.2	.9861	.9864	.9868	.9871	.9875	.9878	.9881	.9884	.9887	.9890
2.3	.9893	.9896	.9898	.9901	.9904	.9906	.9909	.9911	.9913	.9916
2.4	.9918	.9920	.9922	.9925	.9927	.9929	.9931	.9932	.9934	.9936
2.5	.9938	.9940	.9941	.9943	.9945	.9946	.9948	.9949	.9951	.9952
2.6	.9953	.9955	.9956	.9957	.9959	.9960	.9961	.9962	.9963	.9964
2.7	.9965	.9966	.9967	.9968	.9969	.9970	.9971	.9972	.9973	.9974
2.8	.9974	.9975	.9976	.9977	.9977	.9978	.9979	.9979	.9980	.9981
2.9	.9981	.9982	.9982	.9983	.9984	.9984	.9985	.9985	.9986	.9986
3.0	.9987	.9987	.9987	.9988	.9988	.9989	.9989	.9989	.9990	.9990
3.1	.9990	.9991	.9991	.9991	.9992	.9992	.9992	.9992	.9993	.9993
3.2	.9993	.9993	.9994	.9994	.9994	.9994	.9994	.9995	.9995	.9995
3.3	.9995	.9995	.9995	.9996	.9996	.9996	.9996	.9996	.9996	.9997
3.4	.9997	.9997	.9997	.9997	.9997	.9997	.9997	.9997	.9997	.9998

For z values greater than 3.49, use 1.000 to approximate the area.

Areas of a Standard Normal Distribution *continued*

(b) Confidence Interval Critical Values z_c	Level of Confidence c	Critical Value z_c
	0.75, or 75%	1.15
	0.80, or 80%	1.28
	0.85, or 85%	1.44
	0.90, or 90%	1.645
	0.95, or 95%	1.96
	0.98, or 98%	2.33
	0.99, or 99%	2.58

Areas of a Standard Normal Distribution *continued*

(c) Hypothesis Testing, Critical Values z_0	$\alpha = 0.05$	$\alpha = 0.01$
Level of Significance		
Critical value z_0 for a left-tailed test	-1.645	-2.33
Critical value z_0 for a right-tailed test	1.645	2.33
Critical values $\pm z_0$ for a two-tailed test	± 1.96	± 2.58

C
N
S
F

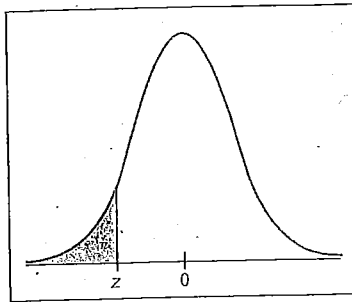


Table entry for z is the area to the left of z .

Areas of a Standard Normal Distribution

(a) Table of Areas to the Left of z

z	.00	.01	.02	.03	.04	.05	.06	.07	.08	.09
-3.4	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0002
-3.3	.0005	.0005	.0005	.0004	.0004	.0004	.0004	.0004	.0004	.0003
-3.2	.0007	.0007	.0006	.0006	.0006	.0006	.0006	.0005	.0005	.0005
-3.1	.0010	.0009	.0009	.0009	.0008	.0008	.0008	.0008	.0007	.0007
-3.0	.0013	.0013	.0013	.0012	.0012	.0011	.0011	.0011	.0010	.0010
-2.9	.0019	.0018	.0018	.0017	.0016	.0016	.0015	.0015	.0014	.0014
-2.8	.0026	.0025	.0024	.0023	.0023	.0022	.0021	.0021	.0020	.0019
-2.7	.0035	.0034	.0033	.0032	.0031	.0030	.0029	.0028	.0027	.0026
-2.6	.0047	.0045	.0044	.0043	.0041	.0040	.0039	.0038	.0037	.0036
-2.5	.0062	.0060	.0059	.0057	.0055	.0054	.0052	.0051	.0049	.0048
-2.4	.0082	.0080	.0078	.0075	.0073	.0071	.0069	.0068	.0066	.0064
-2.3	.0107	.0104	.0102	.0099	.0096	.0094	.0091	.0089	.0087	.0084
-2.2	.0139	.0136	.0132	.0129	.0125	.0122	.0119	.0116	.0113	.0110
-2.1	.0179	.0174	.0170	.0166	.0162	.0158	.0154	.0150	.0146	.0143
-2.0	.0228	.0222	.0217	.0212	.0207	.0202	.0197	.0192	.0188	.0183
-1.9	.0287	.0281	.0274	.0268	.0262	.0256	.0250	.0244	.0239	.0233
-1.8	.0359	.0351	.0344	.0336	.0329	.0322	.0314	.0307	.0301	.0294
-1.7	.0446	.0436	.0427	.0418	.0409	.0401	.0392	.0384	.0375	.0367
-1.6	.0548	.0537	.0526	.0516	.0505	.0495	.0485	.0475	.0465	.0455
-1.5	.0668	.0655	.0643	.0630	.0618	.0606	.0594	.0582	.0571	.0559
-1.4	.0808	.0793	.0778	.0764	.0749	.0735	.0721	.0708	.0694	.0681
-1.3	.0968	.0951	.0934	.0918	.0901	.0885	.0869	.0853	.0838	.0823
-1.2	.1151	.1131	.1112	.1093	.1075	.1056	.1038	.1020	.1003	.0985
-1.1	.1357	.1335	.1314	.1292	.1271	.1251	.1230	.1210	.1190	.1170
-1.0	.1587	.1562	.1539	.1515	.1492	.1469	.1446	.1423	.1401	.1379
-0.9	.1841	.1814	.1788	.1762	.1736	.1711	.1685	.1660	.1635	.1611
-0.8	.2119	.2090	.2061	.2033	.2005	.1977	.1949	.1922	.1894	.1867
-0.7	.2420	.2389	.2358	.2327	.2296	.2266	.2236	.2206	.2177	.2148
-0.6	.2743	.2709	.2676	.2643	.2611	.2578	.2546	.2514	.2483	.2451
-0.5	.3085	.3050	.3015	.2981	.2946	.2912	.2877	.2843	.2810	.2776
-0.4	.3446	.3409	.3372	.3336	.3300	.3264	.3228	.3192	.3156	.3121
-0.3	.3821	.3783	.3745	.3707	.3669	.3632	.3594	.3557	.3520	.3483
-0.2	.4207	.4168	.4129	.4090	.4052	.4013	.3974	.3936	.3897	.3859
-0.1	.4602	.4562	.4522	.4483	.4443	.4404	.4364	.4325	.4286	.4247
-0.0	.5000	.4960	.4920	.4880	.4840	.4801	.4761	.4721	.4681	.4641

For values of z less than -3.49 , use 0.000 to approximate the area.

Semester 2 Review Day 1

1. $63.58^\circ = 63^\circ 34' 48''$

$.58(60) = 34.8 \Rightarrow 34'$

$.8(60) = 48 \Rightarrow 48''$

Calculator:

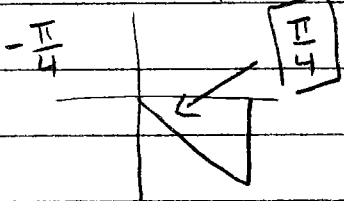
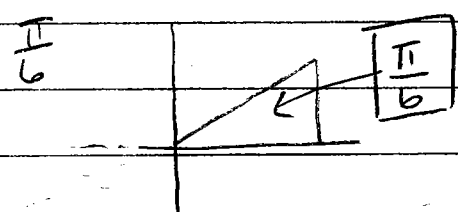
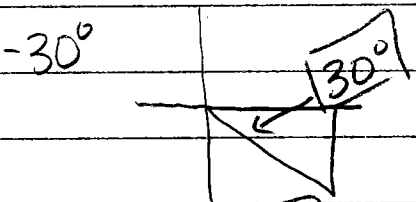
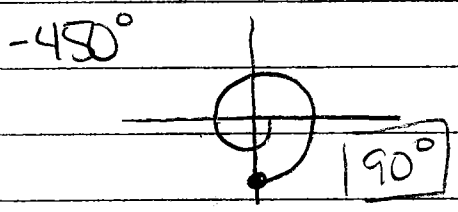
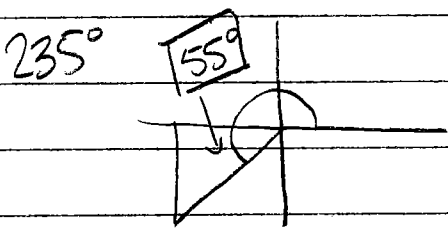
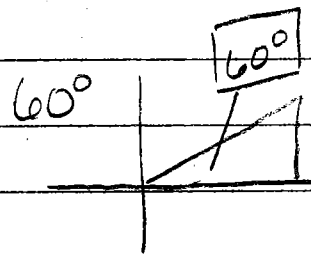
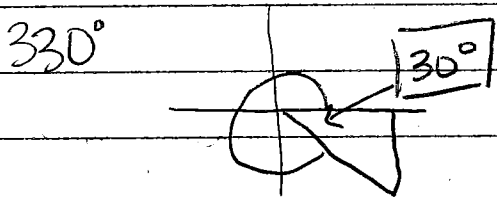
$63.58 \Rightarrow \text{DMS}$

2nd **Apps** **DMS**

2. Complement of $50 \Rightarrow 90 - 50$
 $= \boxed{40^\circ}$

3. Supplement of $\frac{\pi}{8} \Rightarrow \pi - \frac{\pi}{8}$
 $= \boxed{\frac{7\pi}{8}}$

4. Reference angles \rightarrow measure to nearest x-axis ^{*acute, positive angle}



Note - Trig in a coordinate plane

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

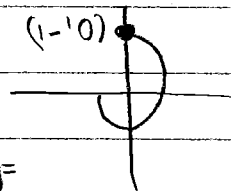
$$\csc \theta = \frac{r}{y}$$

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

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

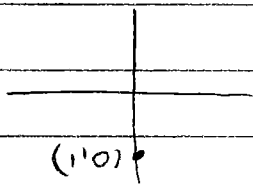
$$\tan \theta = \frac{y}{x}$$

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

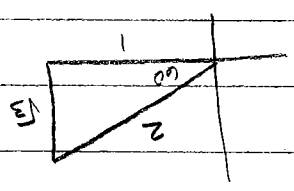


$\frac{1}{0} = \text{undefined}$

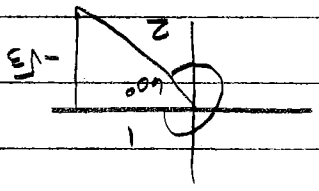
$$\sec 270^\circ = \frac{1}{0}$$



$$\cot 90^\circ = \frac{1}{0} = \text{undefined}$$

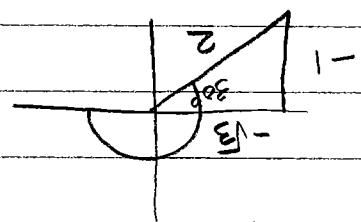


$$\sin 60^\circ = \frac{\sqrt{3}}{2}$$



$$\tan 300^\circ = -\sqrt{3}$$

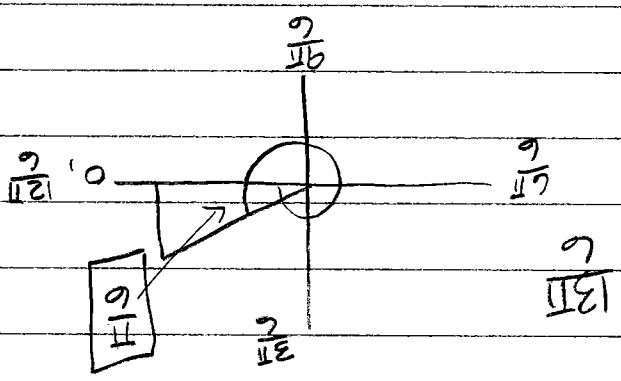
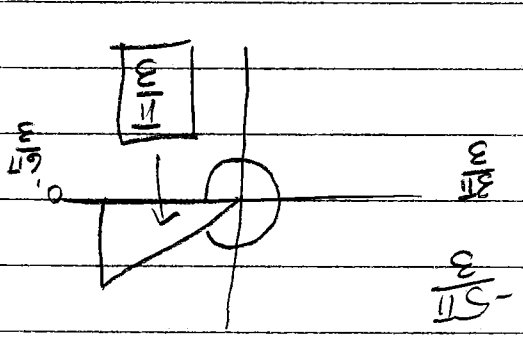
Quad III



210°

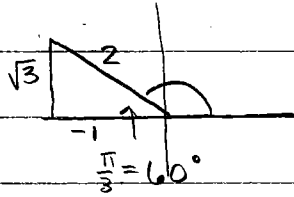
$$\frac{\pi}{8} \cdot \frac{180}{\pi} = 22.5^\circ$$

$$225^\circ \cdot \frac{\pi}{180} = \frac{5\pi}{4}$$

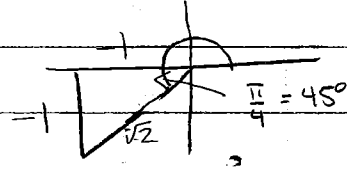


Semester 2 Review Day 1 cont'd

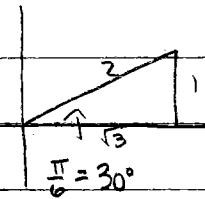
$$\cot \frac{2\pi}{3} = -\frac{1}{\sqrt{3}} = \boxed{-\frac{\sqrt{3}}{3}}$$



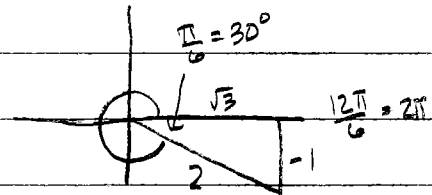
$$\csc \frac{5\pi}{4} = \boxed{-\sqrt{2}}$$



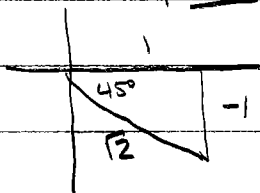
$$\tan \frac{\pi}{6} = \frac{1}{\sqrt{3}} = \boxed{\frac{\sqrt{3}}{3}}$$



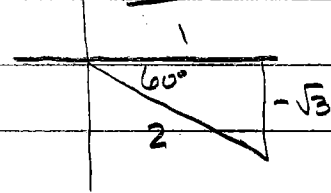
$$\sin \frac{11\pi}{6} = \boxed{-\frac{1}{2}}$$



$$\cot -\frac{\pi}{4} = \boxed{-1}$$



$$\sec -\frac{\pi}{3} = \boxed{2}$$



$$x^2 - 8x + y^2 + 12y + 3 \quad \text{Circle}$$

$$(x^2 - 8x + 4^2) + (y^2 + 12y + 6^2) = -3$$

+16

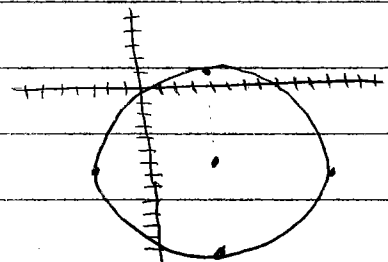
+36

+16 + 36

$$(x-4)^2 + (y+6)^2 = 49$$

Center $e(4, -6)$

radius = 7



x-intercepts (y=0)

$$x^2 - 4^2 = 144$$

$$(x-4)^2 = -16(y+9)$$

Parabola

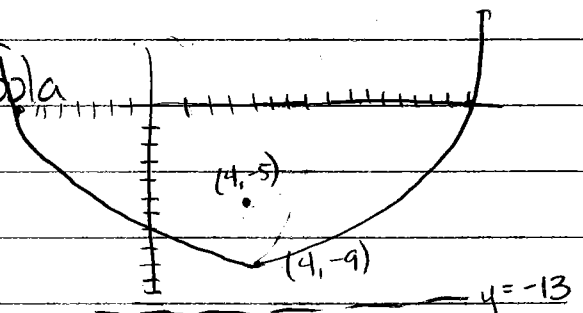
$$x-4=12 \quad x-4=-12$$

$$4p = -16$$

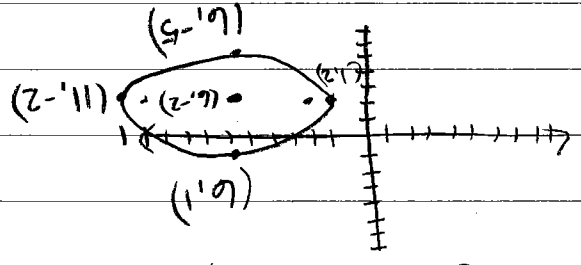
$$x=16 \quad x=-8$$

$$p = -4$$

Vertex $e(4, -9)$



vertices (1,2) (2,-2)
 (11,-2) (10,-2)
 focal e (6,4,-2) (6+4,-2)



Centre (6, -2)
 Ellipse

$$c^2 = 25 - 9 = 16 = 4$$

$$\frac{(x-6)^2}{25} + \frac{(y+2)^2}{9} = 1$$

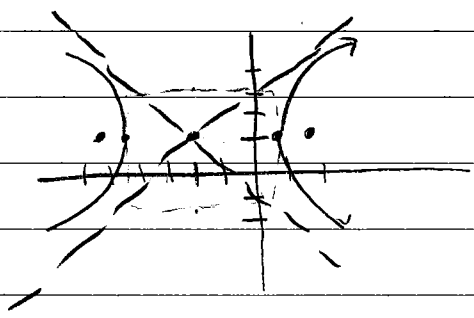
$$c = 3.42$$

$$c^2 = \frac{20}{3} + 5 = \frac{35}{3}$$

$$\sqrt{\frac{35}{3}} = 2.6$$

$$\sqrt{5} = 2.2$$

Centre (2, -1)



$$\frac{3(x-2)^2}{20} - \frac{(y+1)^2}{5} = 1$$

$$+12 - 4$$

$$3x^2 - 12x - 4y^2 - 8y - 12 = 0$$

$$3(x^2 - 4x + 2^2) - 4(y^2 + 2y + 1^2) = 12$$

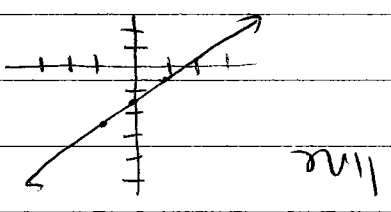
Ellipse

~~only answers!~~

$$5x - 4y = x - 6$$

$$-4y = -4x - 6$$

$$y = x + \frac{3}{2}$$

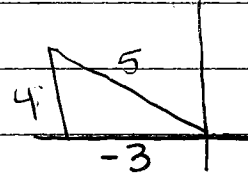


Semester 2 Review Day 1 Cont'd

* Needs to be $+\frac{4}{5}$

$\sin \theta = +\frac{4}{5}$ in Quad II

$$\frac{4}{5} = \frac{y}{r}$$



$$\cos \theta = -\frac{3}{5}$$

$$\tan \theta = -\frac{4}{3}$$

$$\csc \theta = \frac{5}{4}$$

$$\sec \theta = -\frac{5}{3}$$

$$\cot \theta = -\frac{3}{4}$$

$$4^2 + x^2 = 25$$

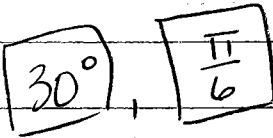
$$x^2 = 9$$

$$x = 3$$

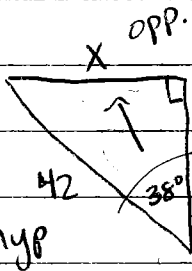
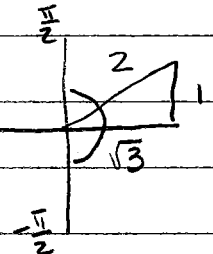
$$\sin \theta = \frac{1}{2}$$

$$-\frac{\pi}{2} \leq \theta \leq \frac{\pi}{2}$$

↳ Quad I & IV



Sin is positive in Quad I



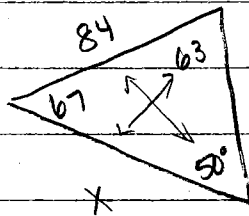
$$\sin \theta = \frac{\text{opp}}{\text{hyp}}$$

$$\sin 38 = \frac{x}{42}$$

$$42 \sin 38 = x$$

$$\boxed{25.858 = x}$$

* Calc needs to be in degree mode



$$63 + 67 = 130$$

$$180 - 130 = 50$$

Law of Sines

$$\frac{x}{\sin 63} = \frac{84}{\sin 50}$$

$$x \sin 50 = \frac{84 \sin 63}{\sin 50}$$

$$\boxed{x = 97.703}$$

Area need two sides and included angle (SAS)

$$\text{Area} = \frac{1}{2} ab \sin C$$

$$= \frac{1}{2} (97.703)(84) \sin 67$$

$$= \boxed{3777.301 \text{ u}^2}$$

Geometric

$$a_n = 144 \left(\frac{3}{2}\right)^{n-1}$$

$$r = \frac{3}{2}$$
$$r^2 = \frac{9}{4}$$
$$144r^2 = 16$$
$$r = \frac{1}{6}$$

$$a_1 = 144 \quad a_3 = 16$$
$$144r = a_2$$
$$\frac{r}{16} = a_2$$

Arithmetic

$$a_n = 208 - 64n$$

$$a_n = 144 + (n-1) \cdot 64$$
$$= 144 - 64n + 64$$

$$d = \frac{1-3}{144-16}$$
$$= -64$$

$$a_1 = 144 \quad a_3 = 16$$

Different answers for arith vs geom

$$a_n = 40(5)^{n-1}$$

$$a_n = a_1(r)^{n-1}$$

$$r = 5 \quad a_2 = 200$$

$$a_1 = 200$$
$$S$$
$$= 40$$

$$40, 10, \frac{5}{2}, \frac{5}{4}$$

Geometric

$$r = \frac{1}{4}$$

Neither

$$4, 7, 12, 19$$

$$5, 9, 13, 17$$

Arithmetic

$$d = 4$$

Geometric

$$3, 6, 12, 24$$

$$a_n = (-1)^n(2n+1)$$
$$a_1 = -3 \quad a_2 = 5 \quad a_3 = -7 \quad a_4 = 9$$

Semester 2 Review Day 1 cont'd

d=7 a₈=54

a₁ => d = slope

7 = 54 - x

8 - 1

7 = 54 - x

7

49 = 54 - x

-5 = -x

5 = x

a₁ = 5

a_n = a₁ + (n-1)d
= 5 + (n-1)7
= 5 + 7n - 7

a_n = 7n - 2

a₄ = 27 a₁₁ = 69

d = 69 - 27

11 - 4

= 42

7

= 6

a_n = a₁ + (n-1)d
= 9 + (n-1)6
= 9 + 6n - 6

a_n = 6n + 3

a₃ = 27 - 6 = 21

a₂ = 21 - 6 = 15

a₁ = 15 - 6 = 9

1012] d=7 a₈=54

a_n = a₁ + (n-1)d

a₈ = a₁ + (8-1)7

54 = a₁ + 7·7

54 = a₁ + 49

-49 -49

5 = a₁

a_n = a₁ + (n-1)d

= 5 + (n-1)7

= 5 + 7n - 7

a_n = -2 + 7n

