

# Snow Day Packet

## Calculus

### 2<sup>nd</sup> Semester 2018

Attached you will find the material for snow days that will help you to continue learning and to gain knowledge rather than forgetting information we have covered. All material covered by the Calculus Snow Day Packet has been taught and practiced in class and is review work. The lessons are labelled as **Day # 1 – Day # 5**. You are to **complete one day's assignment for each inclement weather day school is closed** (up to 5 days). **All work is to be returned upon returning to school.**

Your teacher will be available to provide assistance via **LiveGrades and/or email**. You can contact either Calculus teacher for help at the following:

Mrs. Bledsoe – [mbledsoe@k12.wv.us](mailto:mbledsoe@k12.wv.us)

Mrs. Camden – [jcamden@k12.wv.us](mailto:jcamden@k12.wv.us)

Additional help may be obtained through online searches, Kahn Academy, YouTube, etc...

**\*These assignments will be recorded grades.\***

## Snow Day #1

Evaluate each limit.

1)  $\lim_{r \rightarrow -1} (-r + 2)$

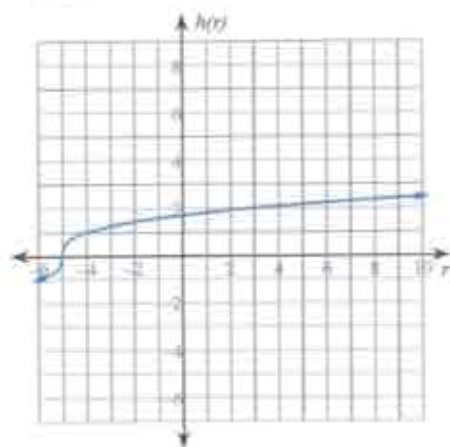
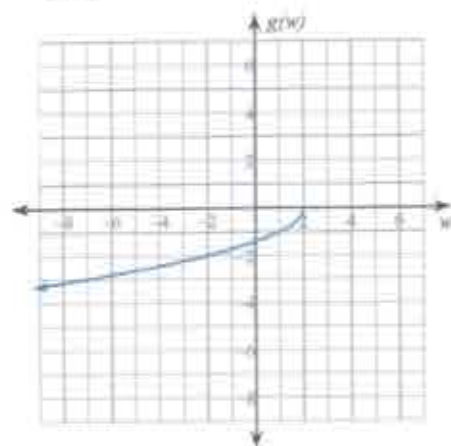
2)  $\lim_{s \rightarrow 2} 2s$

3)  $\lim_{t \rightarrow -1} \sqrt{-t + 4}$

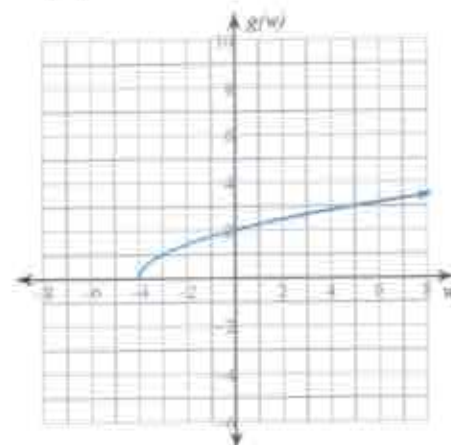
4)  $\lim_{s \rightarrow 2} \frac{s + 8}{s^2 - 11s + 28}$

5)  $\lim_{w \rightarrow -1} -\sqrt{-w + 2}$

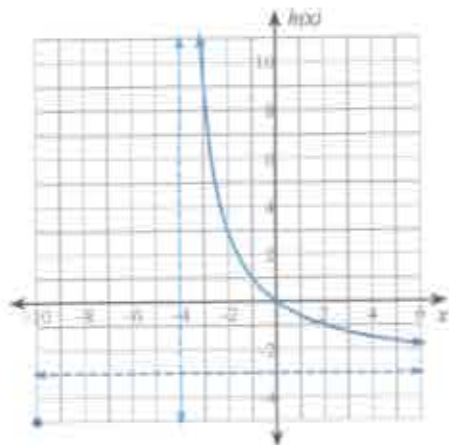
6)  $\lim_{r \rightarrow 2} \sqrt[3]{r + 5}$



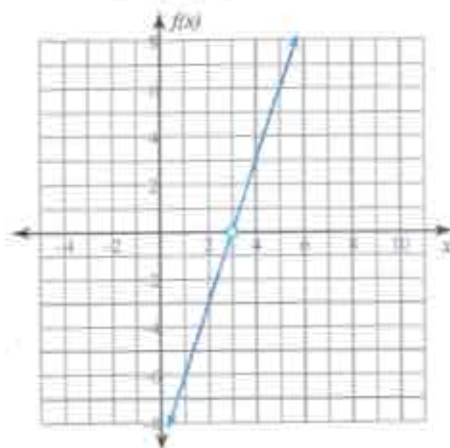
7)  $\lim_{w \rightarrow 0} \sqrt{w + 4}$



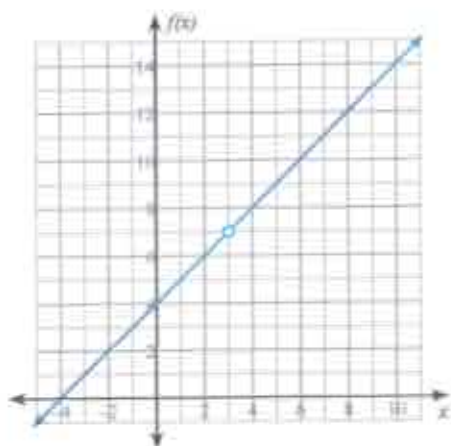
$$8) \lim_{x \rightarrow -2} \frac{3x}{x+4}$$



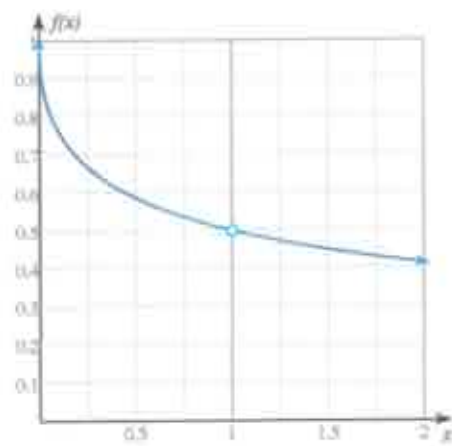
$$9) \lim_{x \rightarrow 3} \frac{x}{\frac{1}{-3+x} + \frac{1}{3}}$$



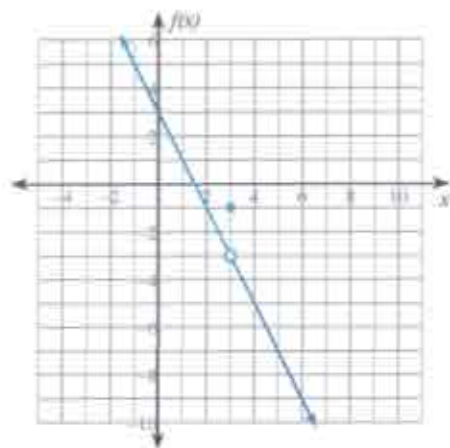
$$10) \lim_{x \rightarrow 3} \frac{x^2 + x - 12}{x - 3}$$



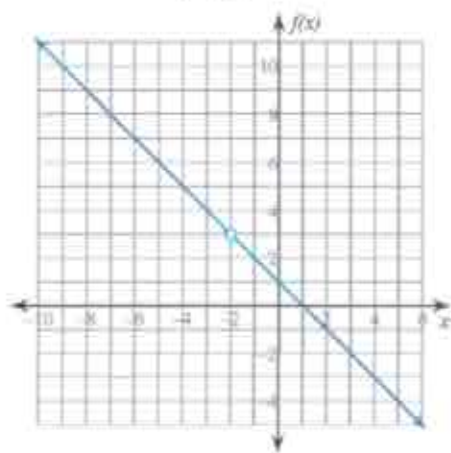
$$11) \lim_{x \rightarrow 1} \frac{\sqrt{x} - 1}{x - 1}$$



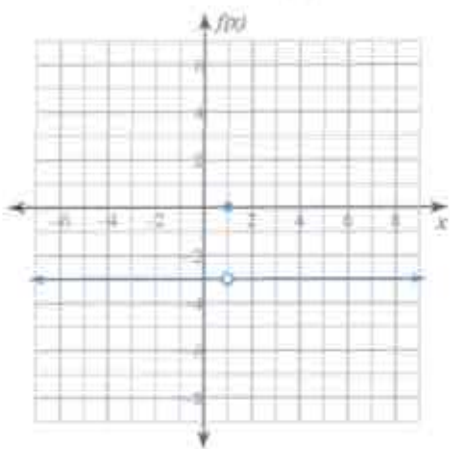
$$12) \lim_{x \rightarrow 3} f(x), f(x) = \begin{cases} -2x + 3, & x \neq 3 \\ -1, & x = 3 \end{cases}$$



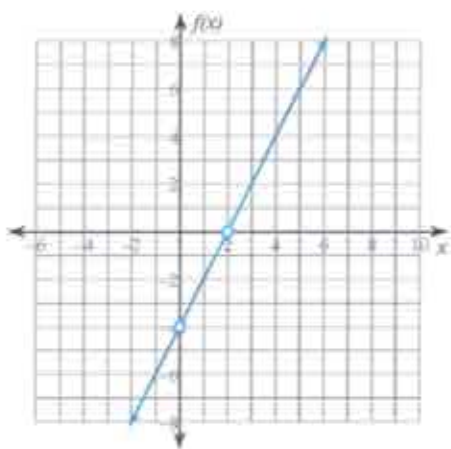
$$13) \lim_{x \rightarrow -2} -\frac{x^2 + x - 2}{x + 2}$$



$$14) \lim_{x \rightarrow 1} f(x), f(x) = \begin{cases} -3, & x \neq 1 \\ 0, & x = 1 \end{cases}$$



$$15) \lim_{x \rightarrow 2} \frac{x}{\frac{1}{-2+x} + \frac{1}{2}}$$



## Snow Day #2

Factor each completely.

1)  $15n^3 + 40n^2 + 12n + 32$

2)  $4n^3 + 8n^2 - 5n - 10$

3)  $12x^3 - 2x^2 - 30x + 5$

4)  $48b^3 - 42b^2 - 48b + 42$

5)  $84m^3 + 112m^2 + 96m + 128$

6)  $5v^3 + 4v^2 + 40v + 32$

7)  $160n^3 + 140n^2 - 224n - 196$

8)  $4xw + 6xf - 10yw - 15yf$

9)  $50mn - 30m + 10bn - 6b$

10)  $r^2 - 4r - 32$

11)  $2k^2 + 8k - 120$

12)  $6n^3 + 60n^2$

13)  $3m^3 - 18m^2$

14)  $8r^3 + 4r^2 - 144r$

15)  $7n^3 + 36n^2 - 36n$

16)  $20a^2 + 108a + 40$

17)  $5n^3 - 48n^2 - 20n$

18)  $9x^3 - 79x^2 - 18x$

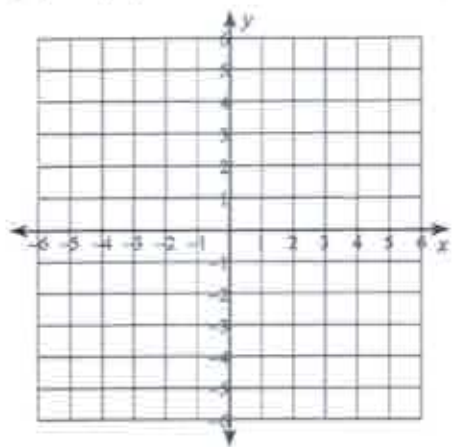
19)  $12v^4 - 15v^3 - 63v^2$

20)  $8x^2 + 18x - 35$

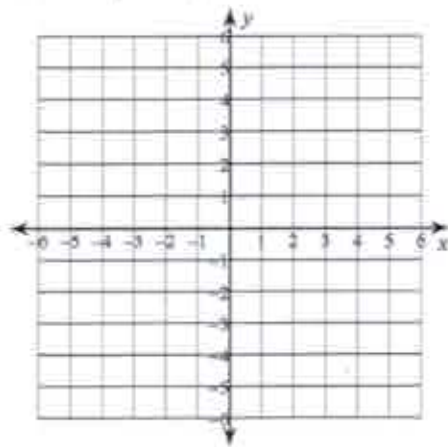
## Snow Day #3

Graph each equation.

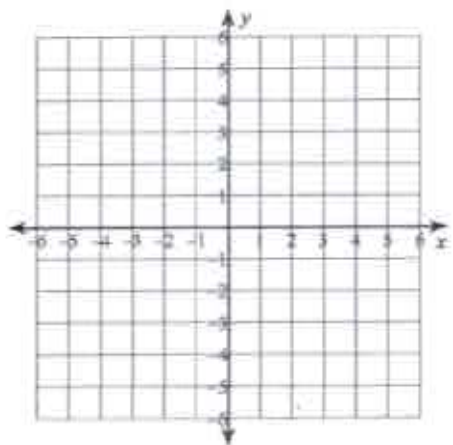
1)  $y = |x| - 3$



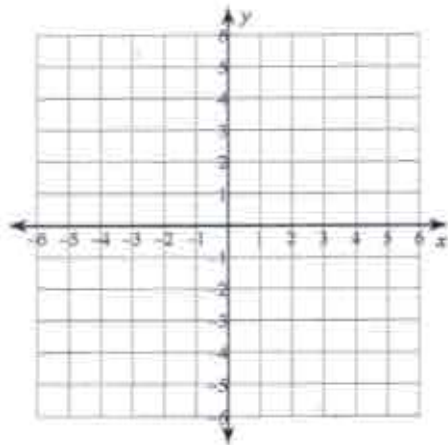
2)  $y = -|x - 2|$



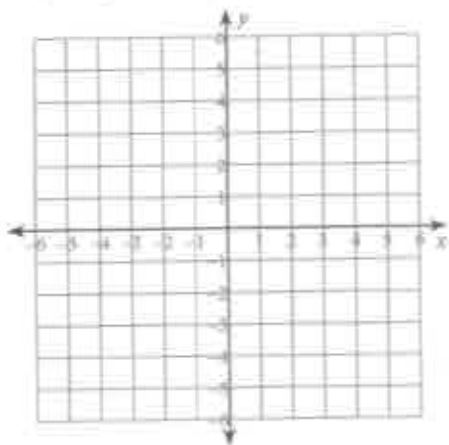
3)  $y = -|3x - 2| - 2$



4)  $y = 3|x + 2| + 1$

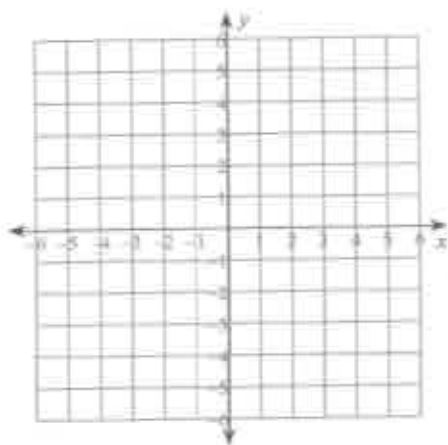


$$5) y = 2|2x - 4| - 4$$

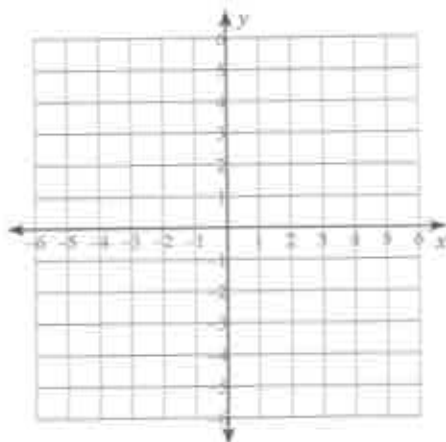


Sketch the graph of each line.

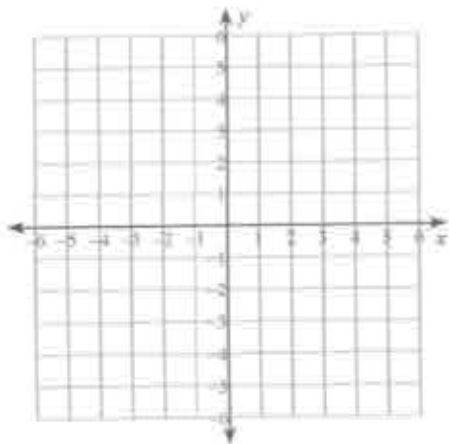
$$6) y = -\frac{1}{3}x - 1$$



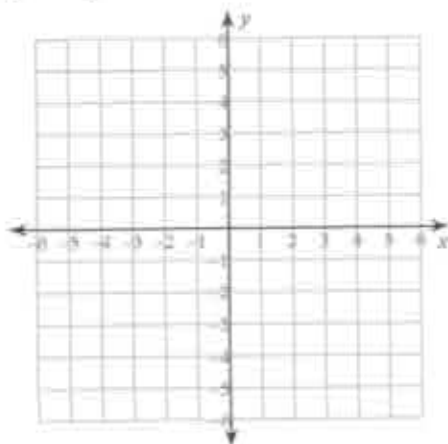
$$7) y = x - 3$$



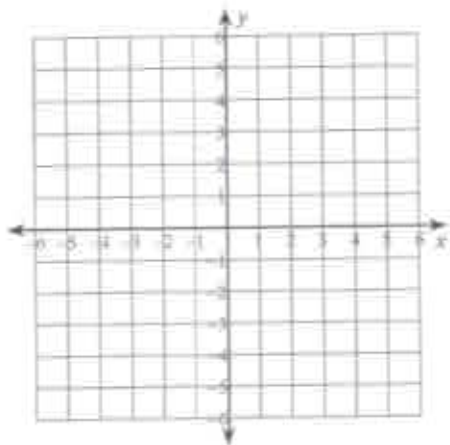
$$8) 4x + 3y = -3$$



$$9) x + y = 0$$

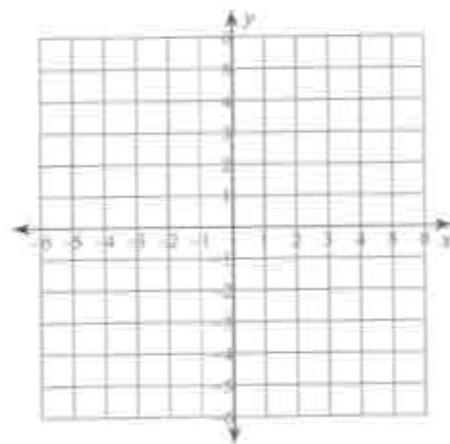


10)  $x + 4y = 0$

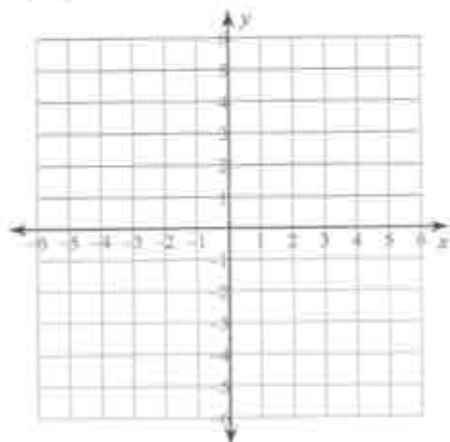


Sketch the graph of each linear inequality.

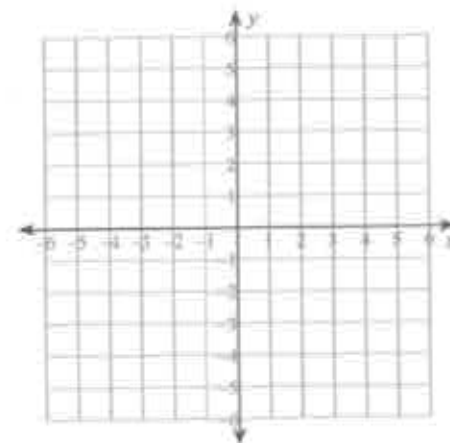
11)  $y < \frac{4}{3}x - 5$



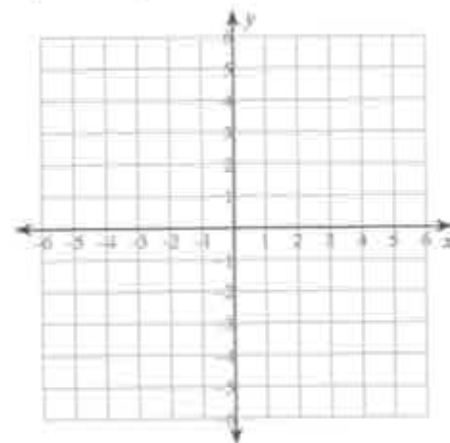
12)  $y < 2x - 2$



13)  $x + 5y < 20$



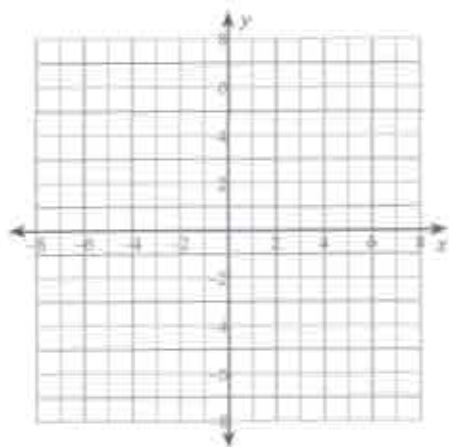
14)  $7x - 3y \geq -6$



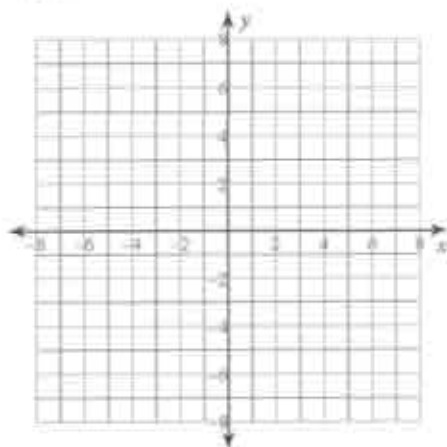


Identify the vertex and axis of symmetry of each. Then sketch the graph.

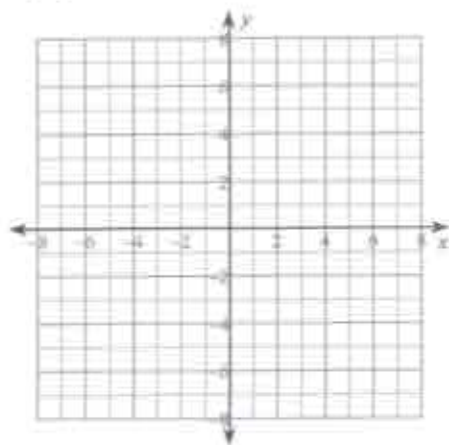
15)  $x = -2y^2 + 8y - 5$



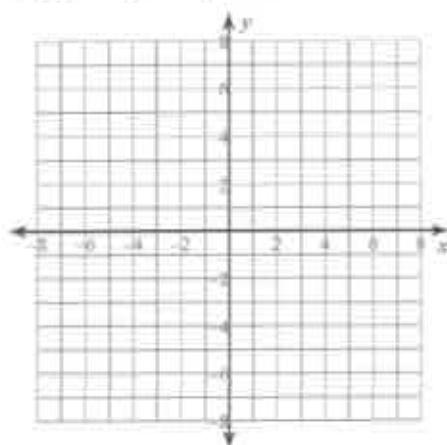
16)  $y = 3x^2 + 12x + 7$



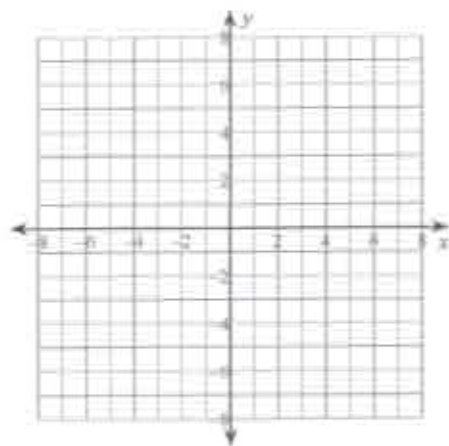
17)  $y = x^2 - 2x + 1$



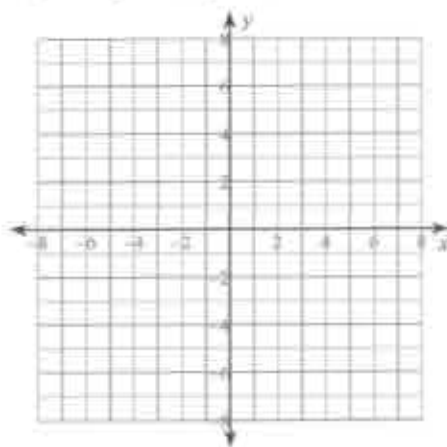
18)  $y = -(x - 5)^2 + 2$



19)  $y = (x - 2)^2 + 1$



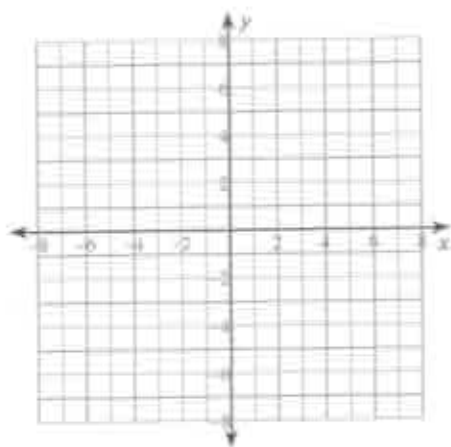
20)  $x = (y - 3)(y - 1)$



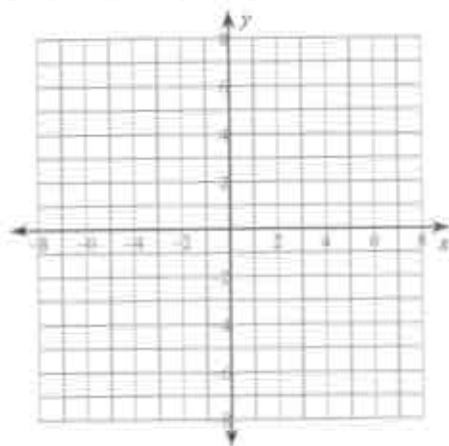
## Snow Day #4

Identify the center and radius of each. Then sketch the graph. Mark the center.

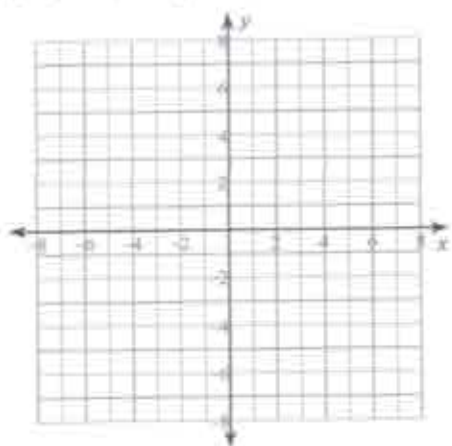
$$1) (x+2)^2 + \left(y - \frac{5}{2}\right)^2 = 16$$



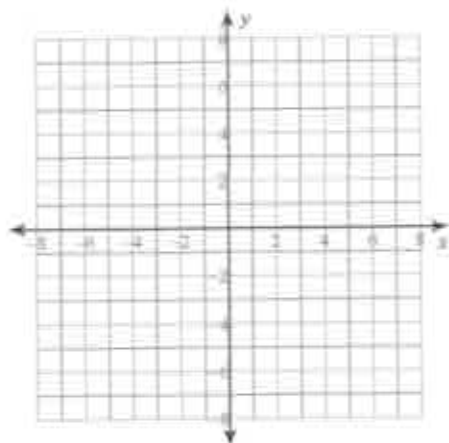
$$2) (x+2)^2 + (y+4)^2 = 6$$



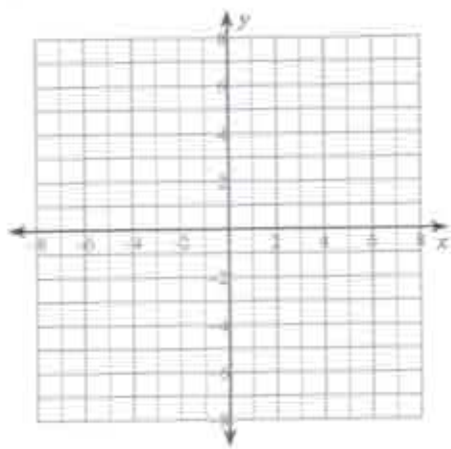
$$3) (x+2)^2 + (y-1)^2 = 13$$



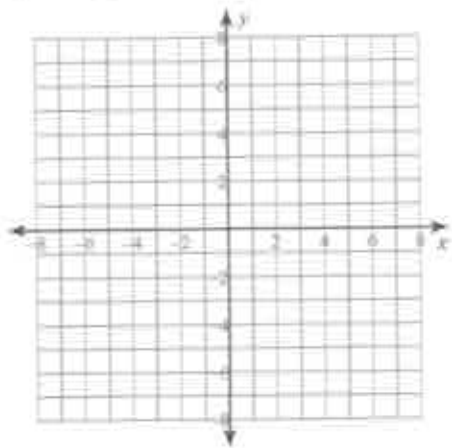
$$4) (x-3)^2 + (y-1)^2 = 9$$



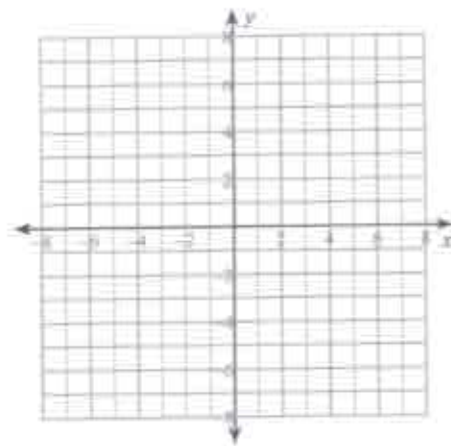
$$5) x^2 + y^2 + 8x - 8y + 28 = 0$$



$$6) x^2 + y^2 - 2x + 8y + 10 = 0$$

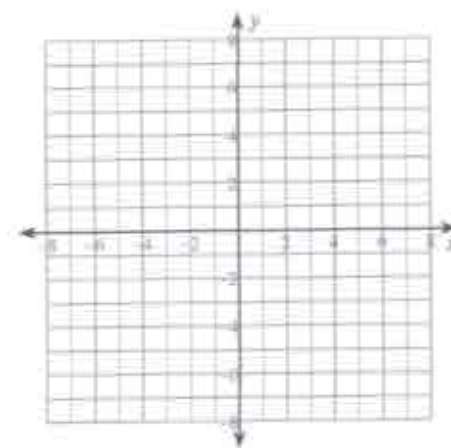


$$7) x^2 + y^2 - 2x - 15 = 0$$

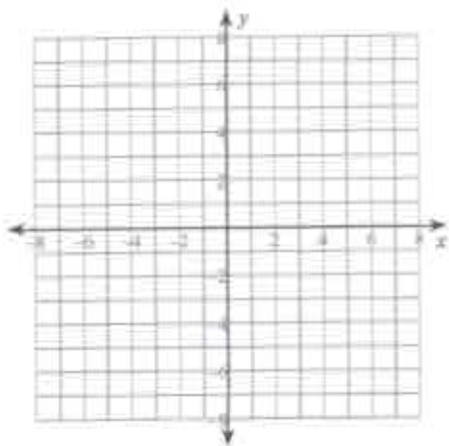


Identify the center and vertices of each. Then sketch the graph.

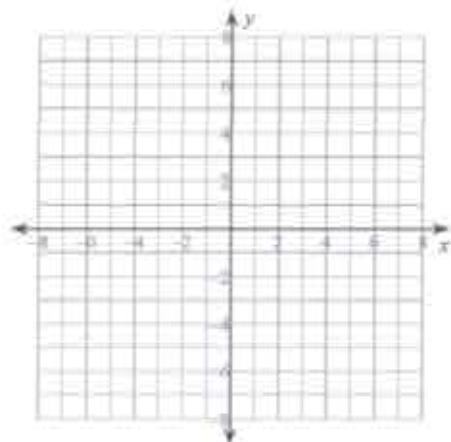
$$8) \frac{(x+1)^2}{25} + \frac{(y-1)^2}{16} = 1$$



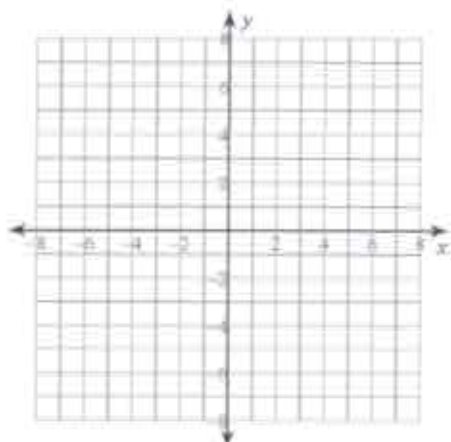
$$9) \frac{(x+4)^2}{9} + \frac{(y+2)^2}{25} = 1$$



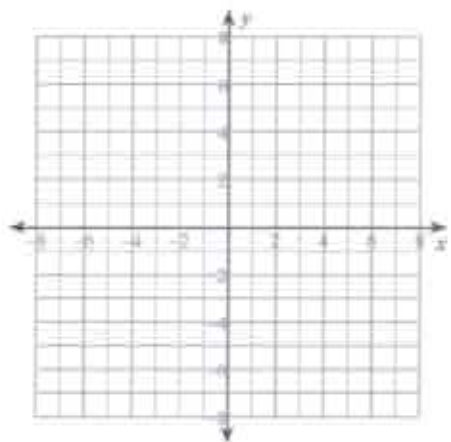
$$10) \frac{(x-1)^2}{9} + (y+3)^2 = 1$$



$$11) \frac{x^2}{9} + \frac{(y-1)^2}{25} = 1$$

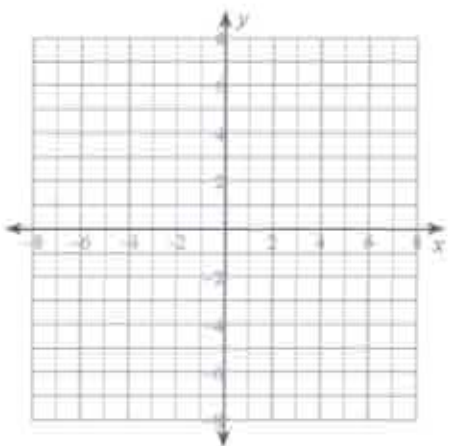


$$12) x^2 + 16y^2 + 2x + 128y + 241 = 0$$

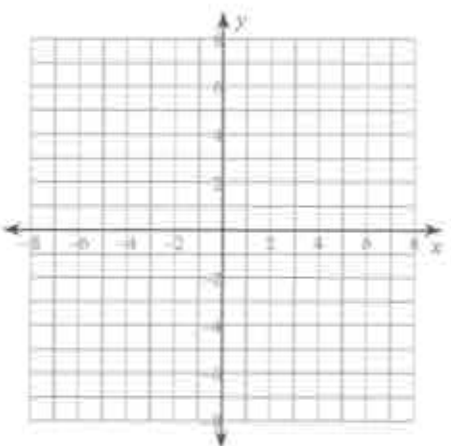


Graph and show the vertices and asymptotes of each.

$$13) \frac{(x+2)^2}{9} - (y+3)^2 = 1$$



$$14) \frac{y^2}{25} - \frac{(x+2)^2}{9} = 1$$



## Snow Day #5

Convert each degree measure into radians and each radian measure into degrees.

1)  $\frac{9\pi}{4}$

2)  $\frac{5\pi}{2}$

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

4)  $-945^\circ$

5)  $495^\circ$

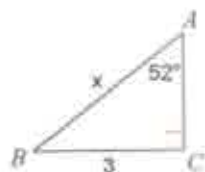
6)  $-225^\circ$

Find the measure of each side indicated. Round to the nearest tenth.

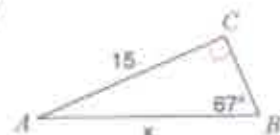
7)



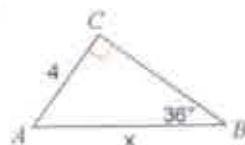
8)



9)

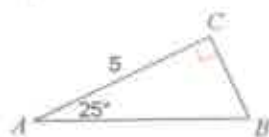


10)



Solve each triangle. Round answers to the nearest tenth.

11)



12)



In each problem, angle C is a right angle. Find the angle indicated to the nearest tenth.

13) Find  $m\angle A$  if  $c = 14$  ft,  $a = 6$  ft

In each problem, angle C is a right angle. Find the side indicated to the nearest tenth.

14) Find  $a$  if  $c = 2$  cm,  $m\angle B = 41^\circ$

In each problem, angle C is a right angle. Solve each triangle rounding answers to the nearest tenth.

15)  $c = 11.9$  ft,  $a = 6.2$  ft

16)  $c = 6.9$  km,  $m\angle A = 53^\circ$

Find the value of each. Round your answers to the nearest ten-thousandth.

17)  $\sin 75^\circ$

18)  $\tan 68^\circ$

19)  $\sec 10^\circ$

20)  $\cot 22^\circ$

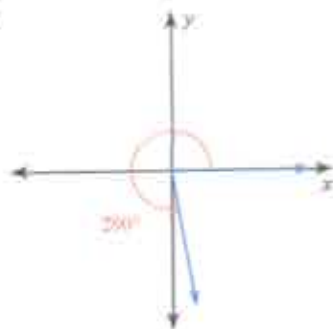
21)  $\cos \frac{17\pi}{36}$

22)  $\csc \frac{5\pi}{18}$

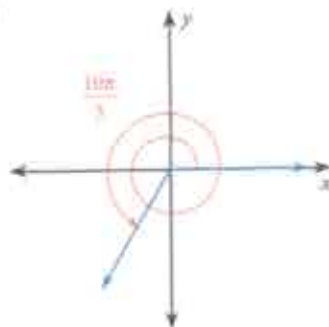
23)  $\sec \frac{9\pi}{20}$

Find the reference angle.

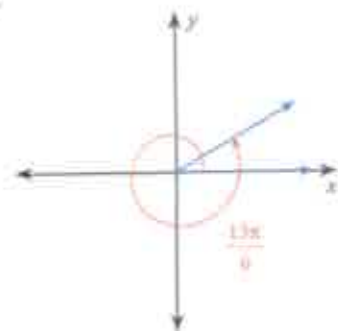
24)



25)

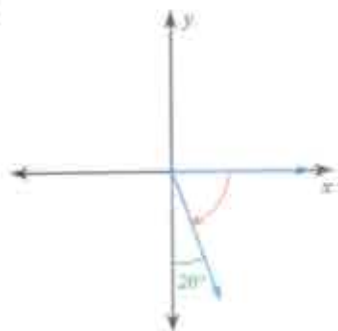


26)

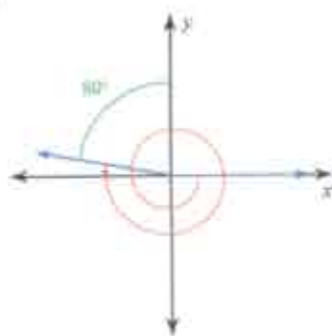


Find the measure of each angle.

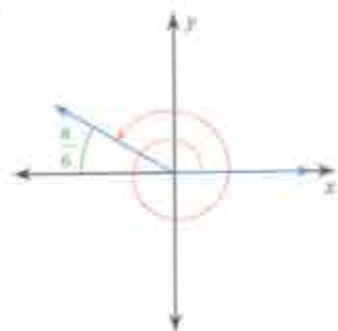
27)



28)



29)



30)

