

## MFM 2P1 - PRACTICE EXAMINATION

**This is a practice exam. It does not cover all the material in this course and should not be the only review that you do in preparation for your final exam. Your exam may contain questions that do not appear on this practice exam. Ideally, this should be completed after you have completed the final exam review so that you can get a feel for how long your exam will be.**

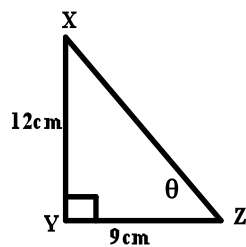
**\*\* This does not include material on the in-class Culminating Activity**

1. Solve for the unknown letter(s). **Show all work!!**

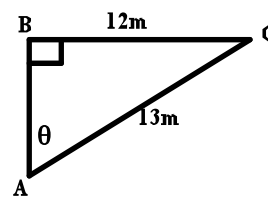
(a)  $\frac{2}{10} = \frac{25}{x}$

(b)  $15:12:x = y:8:2$

2. Determine the measure of the indicated angle. Express your answer to the nearest degree. Start by labeling the sides!! **You'll need to decide whether to use sine, cosine or tangent.**

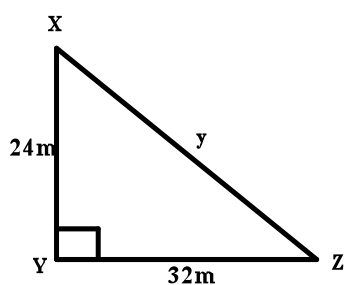


Determine the value of  $\angle Z$  here:



Determine the value of  $\angle A$  here:

3. Completely solve the following triangle. This means you need to find all the missing sides and missing angles!



Determine the length of side y here:

Determine the value of  $\angle X$  here:

Determine the value of  $\angle Z$  here:

4. Solve the following. Show ALL work!!

(a)  $5x - 2 = 18$

(b)  $8n + 7 = 5n + 4$

(c)  $\frac{5x}{6} = -10$

(d)  $3(2h - 5) + 2(h + 7) = 23$

5. Determine the equation of the following lines:

(a) the slope is  $-2$  and the point  $(4, 3)$  is on the line

(b) the slope is  $\frac{1}{2}$  and  $(4, -1)$  is on the line

(c) the line passes through the points  $(6, -2)$  and  $(8, 6)$

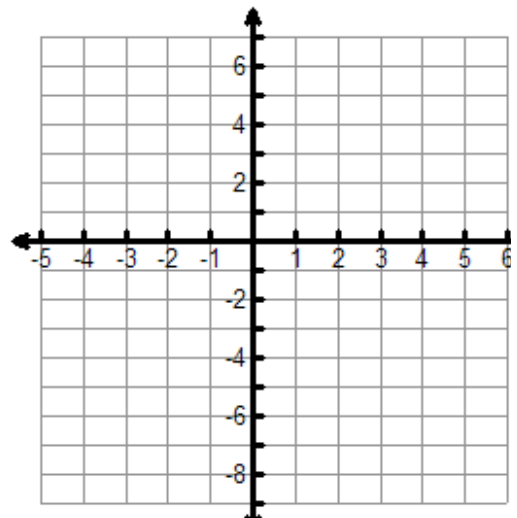
6. Solve the following by graphing. Check your answer.

$y = -2x - 5$

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

Check

Check



7. Solve the following systems of equations using substitution.

$$y = -x + 3$$

$$3x + 2y = 1$$

8. Expand and simplify each of the following in the space provided.

(a)  $(x + 4)(x + 9)$

(b)  $(m + 7)(m - 3)$

(c)  $(2x + 3)^2$

9. Common factor each of the following:

(a)  $5x - 30 =$  \_\_\_\_\_

(b)  $2y^3 + 8y^2 - 4y^5 =$  \_\_\_\_\_

10. Factor each of the following difference of squares:

$x^2 - 25 =$  \_\_\_\_\_

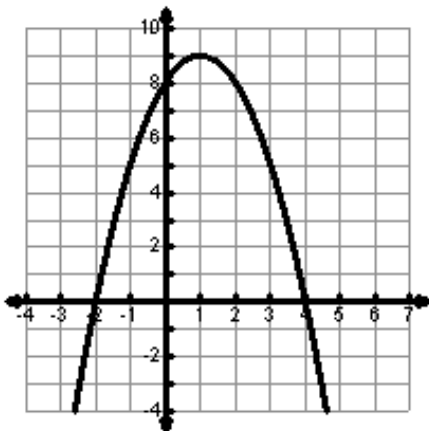
$m^2 - 16 =$  \_\_\_\_\_

11. Factor each of the following simple trinomials:

$x^2 + 7x + 12 =$  \_\_\_\_\_

$x^2 - x - 6 =$  \_\_\_\_\_

12. Draw in the axis of symmetry and then fill in the blanks.



Vertex: \_\_\_\_\_

Axis of symmetry:  $x =$  \_\_\_\_\_

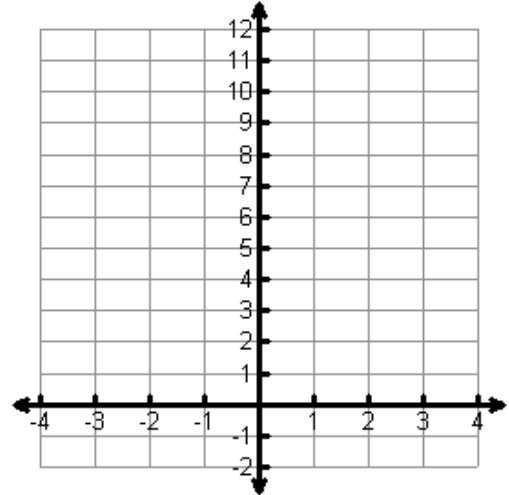
Zeros:  $x =$  \_\_\_\_\_ &  $x =$  \_\_\_\_\_

Min or Max? \_\_\_\_\_

13. Complete the table of values and then make a graph.

$$y = 2x^2 + 1$$

$x$	$y = 2x^2 + 1$	$(x, y)$
-2		
-1		
0		
1		
2		



14. By looking at the equations below, decide which are linear and which are quadratic.

\*\*\*Give a reason for your answer.

(a)  $y = 2x - 7$

Linear

Quadratic

How did you know?

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

Linear

Quadratic

How did you know?

(c)  $y = x(x - 1)$

Linear

Quadratic

How did you know?

15. Complete the following:

Equation	$y$ -intercept	Factored Form	Zeros
$y = x^2 + 7x + 10$			
$y = x^2 + 4x - 21$			

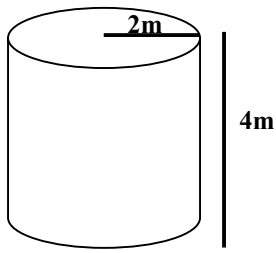
16. Determine whether the following tables of values represent linear functions, quadratic functions or neither. You must show your work!!!!

$x$	$y$
0	0
1	1
2	4
3	9
4	16
5	25

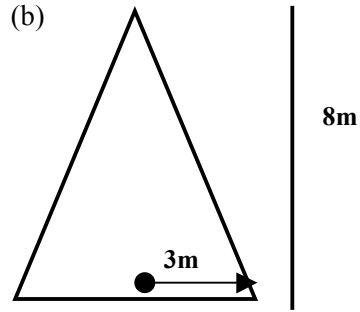
$x$	$y$
-2	1
-1	3
0	5
1	7
2	9
3	11

17. Determine the volume of the following shapes:

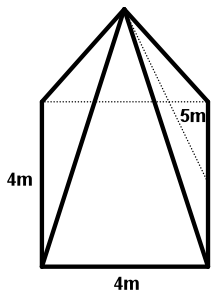
(a)



(b)



18. Draw the net for the pyramid below, and then determine the surface area:



Surface Area

Net:

19. Write the complete measurement above each arrow on the following imperial ruler.



20. Complete the table:

Original Measurement and Units	Calculations	Desired Measurement and Units
15 cm		_____ "
2' 3"		_____ cm
2.5 m		_____ "
8 "		_____ cm