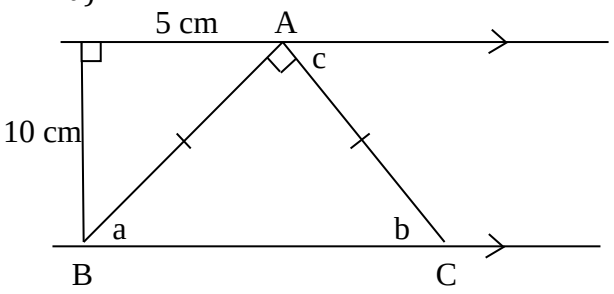
MPM1DW Mock Exam Name:_____

1. Find the indicated angles in the following diagrams.

a)



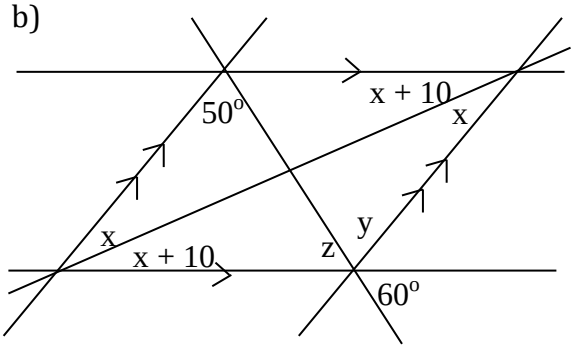
<a _____

<b _____

<c _____

length of AB _____

b)

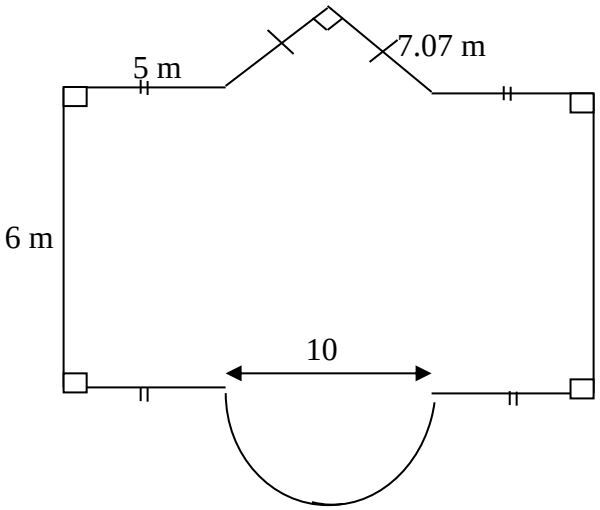


<z = _____

<y = _____

<x = _____

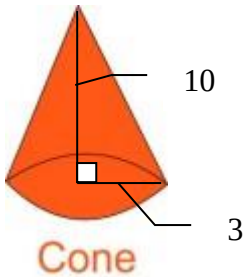
2. Calculate the perimeter and the area for the following figure. Show your work for full marks. (10 marks)



Perimeter: _____

Area: _____

3. Calculate the surface area of this cone. The height is 10m and radius is 3m.

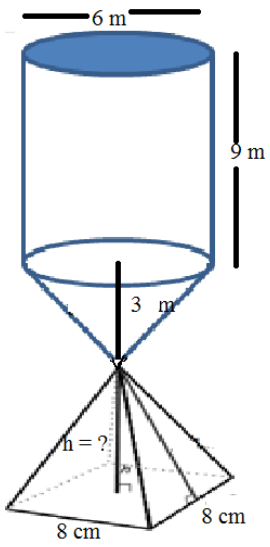


4. The total of all of the interior angles of a polygon is 1260°. How many sides does this polygon have?

5. Allie has 64 pieces of plastic garden fencing. Each piece is 1 m long. She plans to create a rectangular flower garden enclosed by the fencing. She wants the garden to have the maximum possible area so she uses an existing fence for one side of the garden. She only has to enclose the remaining three sides with her plastic garden fencing.

a) What are the dimensions of the garden she should make?	b) What is the area of the garden?
c) What is the perimeter of the entire garden?	

6. Water is being poured from one container to another as shown. The water flows from the top container to the square based pyramid below. The water from the top container completely fills the bottom pyramid. What is the height of the pyramid?

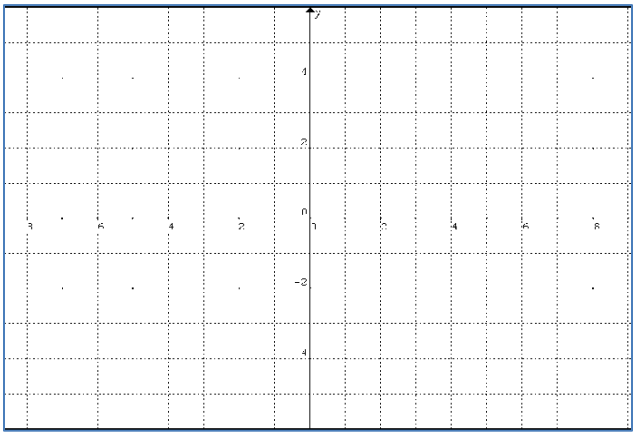


8. Express as a fraction and reduce to lowest terms. - 0.04	9. Evaluate $\frac{-12}{5} \div 3\frac{3}{4}$
10. Simplify $-2\left(x^2-3x-6\right)-\left(5x^2-x+10\right)$	11. Simplify. Answers should have POSITIVE EXPONENTS. $\frac{12x^8y^5}{\left(2x^{-9}y^{-2}\right)\left(9x^7y^{-3}\right)}$
12. Evaluate. $\frac{3}{5}+\frac{1}{6}\times\frac{-3}{5}+\left(\frac{3}{-10}\right)$	13. Simplify FIRST then evaluate for a=-3 and b=1 $2b(-5b-3ab-4)+b^2(7b-2a-8)$

14. Write the equation of the line in **standard form** that is perpendicular to 3x + 6y – 1 = 0 and has the same y-intercept as $3x - 2y - 6 = 0$

15. Write the equation of a line in standard form Of a line that passes through (-1,7) and (5,8)

16. Draw a line that is **parallel** to $2x - 3y + 1 = 0$ and has the same **y-intercept** as $2x + y - 2 = 0$



a) Find the equation of the line that you have drawn and write it in **Standard Form.**

17. Solve the following equations:

a) $2(3y + 5) = 3(y + 2) - 2$

b) $\frac{3x}{9} + \frac{2x+3}{3} = 4$

18. Simplify $\frac{(-3xy^2z^3)^3}{(-3x^2y^2)^2}$

19. Find the slope and y intercept of the line $5x - 2y + 10 = 0$

20. The table gives the amount, in billions of dollars, spent on elementary and secondary education in Canada in several years

Year	1971	1976	1981	1986	1991	1996
Spending ($Billions)	5	10	17	23	33	36

a) Display the data on a scatter plot.
b) Draw the line of best fit.
c) Find an equation for the line of best fit.