First name: _____ Last name: _____ Student ID: _____

Review 2 Homework

1. Solving equations.

1). $-2(x-5) = 7(3x-2)$	2). $3x - ½ = x/2 + 2x$
3). $x-3/4 = 3x + 2/3$	4). $\frac{1-2x}{2} = \frac{2x+5}{3}$

2. Determine the slopes of the line segments joining the following pairs of points. Then find the equations of the lines.

1) A(-3, 4), B(4, -5)

2) P(2, 7), B(-2, 5)

3. Determine an equation of the line through the given point having the given slope

1) (3, -2); m=-2

2) (2, 5); m= $-\frac{1}{2}$

4. Determine an equation of the line through (3, -2) and

1) parallel to the x-axis

2) parallel to the y-axis

3) parallel to line y=-3x+5

4) perpendicular to y=$\frac{1}{2}$x-3

5. Determine the equation for the family of lines

1) passing through the point (0, 3)

2) having slopes -2

3) parallel to y-axis

6. A quadrilateral has vertices A(-4, -7), B(-5, -3), C(3, -7), D(8, 4). Find the length of the diagonals.

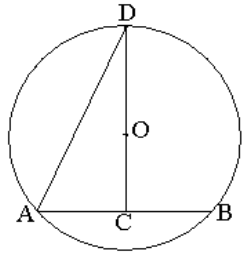
7. Determine the equation of a line whose slope is perpendicular to y= 3x–2 and passes through point A (2, 3).

8. If y = mx intersects y = 3x + 5 at (p, 8), find the value of m and p.

9. Determine the equation of the line through the given point having the given slope
a) (0, −2); m = 0 b) (−5, 7); m = undefined

10. Find x if point (x, −2) lies on the line joining (5, −2) and (0, −5)

11. Triangle ADB is inscribed in circle O. DC = AB = 8, DC ⊥ AB and passes through center O, determine the perimeter of triangle ADB.



12. A square-based prism has a surface area of 600 cm^2. What are the dimensions of the prism if it has maximum volume?

13. Factor completely.

a) $n^2 - n - 56$	b) $x^2 - 100$	c) $15x^2 + 26x - 21$	d) $x^2 + 8x + 16$
e) $x^2 + 2x - 80$	f) $9x^4 - 4x^2$	g) $2x^3 - 20x^2 + 32x$	h) $4a^2 - 20a + 25$
i) $12p^3 - 21p^2 + 28p - 49$	j) $80v^2u - 8v^3 + 40v^3$	k) $-12x + 6xy^2 - 15x^3y^3$	l) $21k^3 - 84k^2 + 15k - 60$