**PREREQUISITE SKILLS**

These are the concepts that you **NEED** to know and be able to **DO**. You learned them all in grade 10 math.

1. **Operations with Integers:** Evaluate

a) 3 + (–6)( –4) b) (–5)2 c) –34

1. **Operations with Rational Numbers**  Evaluate 
2. **Evaluating Algebraic Expressions:** Find the value of 5*x*2 *y* + 6*xy* – 4*y*2 – 1 if *x* = – 3 and *y* = 2

1. **Graphing :** Name the type of relation, the original (untransformed) function, list the transformations, then graph.

Linear04Linear04a)  b) 

1. **Expanding and Simplifying Algebraic Expressions:** Expand and simplify.

a) 5*x*2 *y*(2*xy* – 3*y*2) b) (3*x* + 2*y*)(2*x* – 5*y*) c) 

1. **Factoring:** Factor fully.

a)  b)  c) 

1. **Solving Equations:** Solve.

a)  b)  c) 

1. **Quadratics – Completing the Square** Find the vertex of 

1. **Trigonometry:** Determine the value of θ rounded to nearest degree and/or *x*, rounded to nearest tenth

|  |  |
| --- | --- |
| a) |  |
| b) |  |
| c) |  |
| d) |  |

**MORE PRACTICE**

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| 1. For the line state:   1. the slope 2. the -intercept | | 9. Factor fully. |
| 2. Expand and Simplify | | 10. Solve each equation using the most appropriate method. Give answers to one decimal place only where appropriate. |
| 3. Factor | | 11. Complete the square and state the vertex. |
| 4. the roots of the equation: | | 12. Evaluate. |
| 5. Given , state:   1. vertex 2. max or min value 3. direction of opening | | 13. Solve for the unknown indicated on each diagram to one decimal place. |
| 6. Evaluate. | | 14. An archway has been built over a one-way road. The arch can be modeled by where is the height of the arch in metres and is the horizontal distance in metres.   1. How wide is the arch? 2. At what horizontal distance (to one decimal place) is the height 3 metres? 3. What is the maximum height of the arch? |
| 7. Solve each system algebraically using the method indicated. Show proper form. | | 15. Graph in pencil and in colour. List the transformations using proper mathematical language. |
| a) SUBSTITUTION  x + 4y = 7  3x - 2y = -21 | b) ELIMINATION | 16. Solve.   |  |  | | --- | --- | |  |  | |
| 8. Expand and simplify. | |