

REVIEW – Unit 0

Tentative TEST date _____

**Reflect**

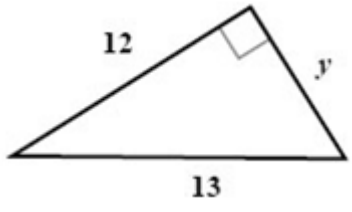
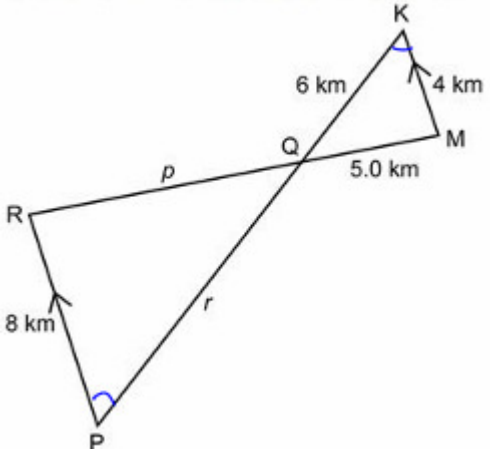
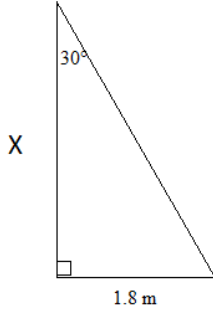
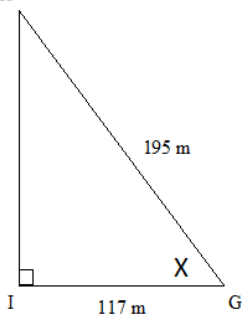
Were you happy with your results from last year? Looking back, what can you improve upon? What study habits have worked for you in the past that you can continue with? **MAKE A PLAN and STICK WITH IT**

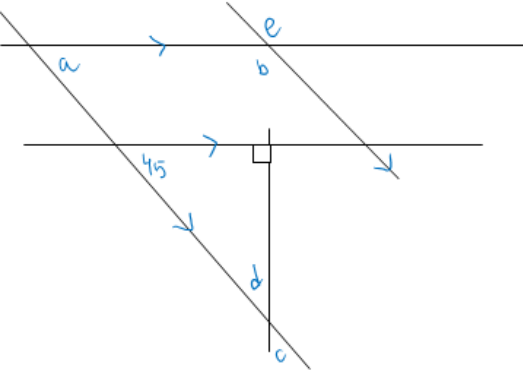
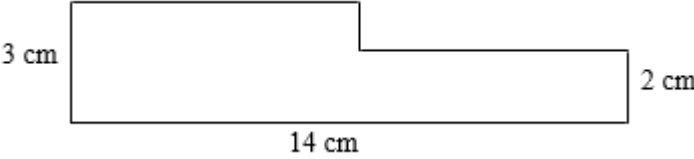
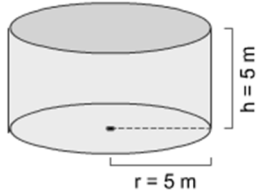
Learning Goals/Success Criteria

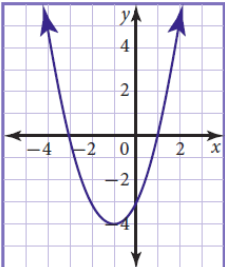
Use the following checklist to help you determine what you know well and where you need additional review.

Days & Pages	Can you...	No, I cannot. I need to learn this.	I recall part of the steps	I think I get it, not sure if answers are correct	I think I got this perfectly
Day 1 Pg7-8	1. Add and subtract integers $-3 - (-7)$ $-6 + (-14)$ $-9 + 4$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2. Multiply and divide integers $-8 \div -4 \times -10$ $-(-3) \times 2$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3. Convert fractions from mixed to improper and back $4\frac{2}{3}$ $\frac{21}{4}$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4. Multiply and divide fractions $2\frac{2}{11} \times 4\frac{1}{8}$ $1\frac{7}{18} \div 5$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5. Add and subtract fractions $2\frac{4}{15} + 2\frac{4}{5}$ $6\frac{1}{7} - 4\frac{1}{2}$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	6. Use proper order of operations $34 + 6 \times (4^2 \div 2)$ $1\frac{4}{5} \times \left(2 - \frac{3}{5}\right) \div 1\frac{1}{5}$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DAYS & Pages	Can you...	No, I cannot. I need to learn this.	I recall part of the steps	I think I get it, not sure if answers are correct	I think I got this perfectly
Day 2 Pg9-10	7. Use distributive property & collect like terms in polynomials $x(1 - 4x + 5y) - 2x(3x - 6 + y)$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	8. Solve two step linear equations $9 = -3 + \frac{x}{4}$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	9. Solve linear equations with brackets $5(2x - 3) = 2(x - 2) + 5$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	10. Solve linear equations with denominators $\frac{5n}{2} = \frac{4n}{3} - \frac{7}{6}$ $\frac{x+1}{3} = \frac{x-1}{5}$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DAYS & Pages	Can you...	No, I cannot. I need to learn this.	I recall part of the steps	I think I get it, not sure if answers are correct	I think I got this perfectly
Day 3 Pg11-12	11. Use Pythagorean theorem to solve for triangle sides 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	12. Solve similar triangles 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	13. Solve for sides in a triangle using SOH CAH TOA 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	14. Solve for angles in a triangle using SOH CAH TOA 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DAYS & Pages	Can you...	No, I cannot. I need to learn this.	I recall part of the steps	I think I get it, not sure if answers are correct	I think I got this perfectly
Day 4 Pg13-14	<p>15. Find angles using geometric properties</p>  <p>16. Find perimeter and area</p>  <p>17. Find volume and surface area</p> <p>$V = \pi r^2 h$</p>  <p>$SA = 2\pi r^2 + 2\pi rh$</p>	<p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>	<p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>	<p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>	<p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>

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Day 5 Pg15-16	18. Expand using FOIL $(2-3x)(4+x)$ $(6x-4)^2$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	19. Factor polynomials by common factoring $2x^2 + 10x$ $15p^3 + 21p^4$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	20. Factor polynomials by sum/product $x^2 - 11x + 30$ $x^2 - x - 72$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	21. Factor polynomials by difference of squares $16 - 81x^2$ $25r^2 - 36s^2$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	22. Identify key properties of quadratics 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DAYS & Pages	Can you...	No, I cannot. I need to learn this.	I recall part of the steps	I think I get it, not sure if answers are correct	I think I got this perfectly
Day 6 Pg17-18	23. Find slope from two coordinate points (3, 4) and (1, -6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	24. Find equation of lines from graph 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	25. Find equation of lines Line has a slope of 4 and passes through (-1, -6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	26. Graph lines $y = \frac{2}{3}x - 6$ 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

DAY 1 – Integers & Fractions – NO CALCULATORS

Evaluate. Show your work in the space provided.

1. $27 + -18$

2. $-41 - 23$

3. $-69 - (-42)$

4. $(-10) \times 3$

5. $37 - (-60)$

6. $27 \div (-9)$

7. $-8 \times 6 \div 4 - 12 \div -6$

8. $45 \div 15 + 10 - 2^3$

9. $5^3 \div -5 - 10 + 2^3$

10. $3 \times 6 \div 2 - 5 + 7$

11. $10^2 + 5^2 + -5 \times 6 \div 2$

12. $-28 \div 4 \times 6 - 20$

13. $-14 \div 2 \times 3 - 21$

14. $-16 \times -2 \div -2 + 10$

15. Complete the following questions. Put all answers in lowest form (REDUCE)

a) $\frac{1}{5} + \frac{2}{3} =$

b) $\frac{3}{10} - \frac{5}{6} =$

c) $\frac{7}{8} + \frac{8}{10} =$

d) $\frac{2}{3} - \frac{3}{7} =$

e) $2\frac{3}{4} + 3\frac{2}{7} =$

f) $3\frac{4}{9} - 1\frac{1}{2} =$

g) $2\frac{2}{5} - 1\frac{3}{4} =$

h) $2\frac{2}{3} - 1\frac{1}{4} =$

i) $\frac{1}{8} \times \frac{8}{9} =$

j) $\frac{3}{4} \div \frac{4}{9} =$

k) $\frac{3}{4} \times \frac{1}{5} =$

l) $\frac{2}{3} \div \frac{-8}{9} =$

m) $\frac{3}{7} \div 6 =$

n) $-1\frac{1}{4} \times 2\frac{2}{5} =$

o) $3\frac{1}{3} \div (-2\frac{6}{7}) =$

p) $1\frac{2}{7} \times \frac{5}{9} =$

DAY 2 – Algebra – NO CALCULATORS

PART A

1. Simplify each expression in the space provided.

a) $5(x+2)-2(2x+1)$	b) $3(x^2-3x+2)$
c) $(3x^2+9x)-(x^2+x)$	d) $2x(x^2-4x-3)$
e) $(3x^2+17xy)-(12x^2-3xy)$	f) $2x(x+y)-3x(2x-3y)$
g) $6(2x^2-5x)-14(3x-x^2)+3(x-x^2)$	h) $4x(5x^2-2xy-8)-3x^2(4x-8y-2)$
i) $-3x^2(2x+4)-3x(x^2+4x-2)$	j) $3(x^2-3)-2x(x+4)+5$
k) $2x(3x^2+4x)-x(x^2-5x)$	l) $3+(x^2-4x)-2x(x-3)$

2. Explain the difference between multiplying like terms and adding like terms. You can use the like terms $2x^2$ and $3x^2$ in your explanation of you would like.

PART B - Solve each of the following

1. $5x + 2 = 22$

2. $3x = 11 + 1$

3. $5n + 2n = -14$

4. $4x + 2x = -18$

5. $3y - 5y = 4$

6. $3t + 7t = -30$

7. $3x + 2x = -20$

8. $5 + 11 = 4y$

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

10. $\frac{n}{3} + 3 = 5$

11. $4 + \frac{x}{3} = -7$

12. $\frac{y}{2} + 5 = 3$

13. $5x = 4x + 7$

14. $3m = m + 4$

15. $7n = \frac{34n - 6}{5}$

16. $\frac{2x - 1}{3} = 3$

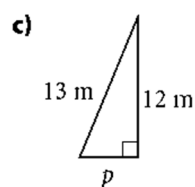
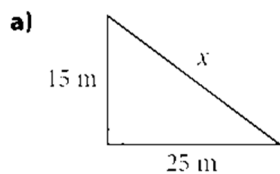
17. $2(3x + 4) = 14$

18. $2(x + 3) - 3 = 8 - 3x$

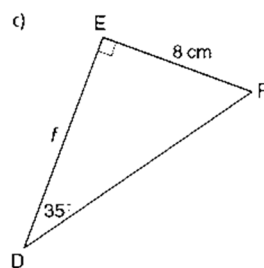
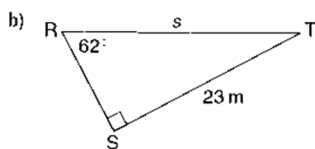
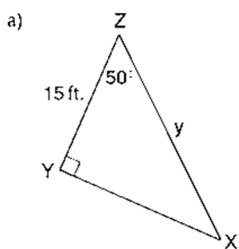
19. $5(2x - 3) = 2(x - 2) + 5$

DAY 3 – Trigonometry

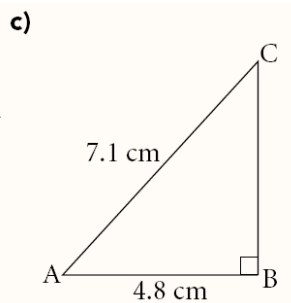
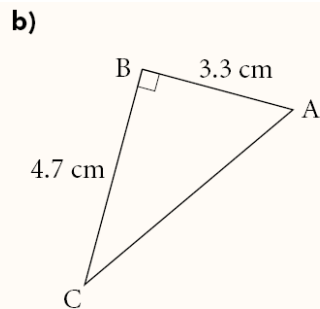
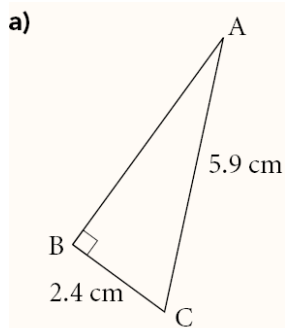
1. Find the length of the indicated side.



2. Find the measure of the indicated side.

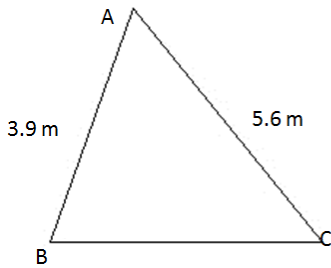


3. Determine the measure of angle A.

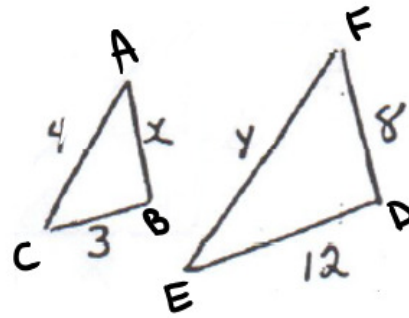
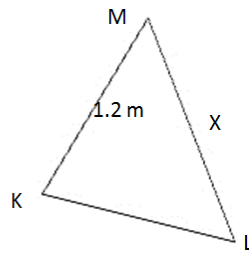


4. Determine the value of the missing side on the **similar triangles** in the diagram.

a)



b)



5. Two trees of different heights cast shadows on a sunny day. One tree is 10 m tall and casts shadow that is 7 m long. How tall is the other tree if it casts a 3 m shadow.

Hint: Draw the diagram and use similar triangles proportions. Don't forget to end with a therefore statement in word problems.

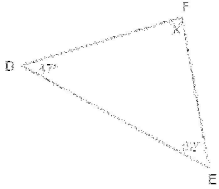
6. A ladder is placed against a building. If the ladder makes an angle of 78° with the ground and the foot of the ladder is 5.6 m from the base of the building, find how long the ladder is. Draw and label the diagram.

Hint: Draw the diagram and use SOH CAH TOA. Don't forget to end with a therefore statement in word problems.

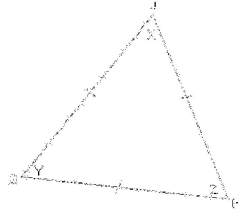
DAY 4– Geometry & Measurement

1. Find the measures of the indicated angles.

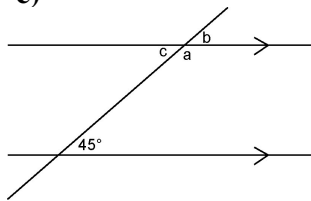
a)



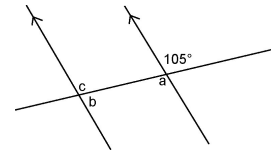
b)



c)

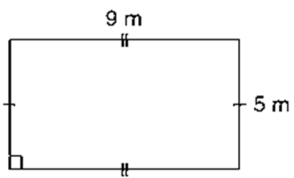


d)

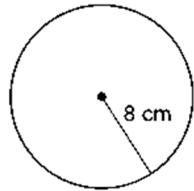


2. Determine the perimeter of each figure.

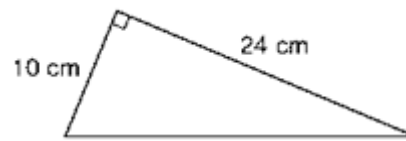
a)



b)

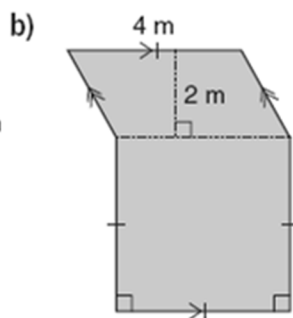
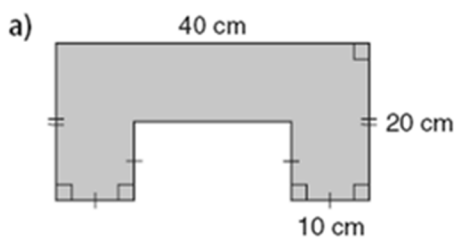


c)

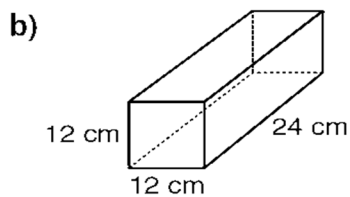
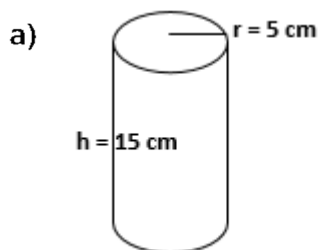


3. Determine the area of each figure above.

4. Determine the area of each figure.



5. Determine the surface area and volume.



DAY 5 – Polynomials & Quadratics

1. **Expand and simplify** each of the following.

Ex. 1 Expand using FOIL, then collect like terms

Ex. 2 Get rid of exponent first, then FOIL and collect like terms

a.

c.

b. $y = x(3x + 6)$

d. $y = -2(4 - x)(10 - 5x)$

2. **Factor** each of the following

Ex. 1 Common Factor out the $6a^2$ by dividing
 $12a^3 + 54a^2$

$$GCF = 6a^2$$

$$6a^2 \left(\frac{12a^3}{6a^2} + \frac{54a^2}{6a^2} \right)$$

$$= 6a^2(2a + 9)$$

Ex. 2 Trinomial Factoring (need to have
THREE terms and NO COEFF. on x^2)

find two special numbers that add to -12
and multiply to -28

$$x^2 - 12x - 28$$

sum product

$$= (x - 14)(x + 2)$$

Ex. 3 Difference of Squares (need to
have TWO terms, ONE NEGATIVE, and
be able to SQUARE ROOT)

Create two brackets one with a plus, one
with a minus

a.

c.

e.

b. $y = -5x^2 + 25x$

d. $y = x^2 - 2x - 15$

f. $y = x^2 - 64$

3. Given the equation for a **parabola** $y = 2(x - 3)(x + 7)$, calculate each of the following.

a. the zeros (set each factor to zero and solve)

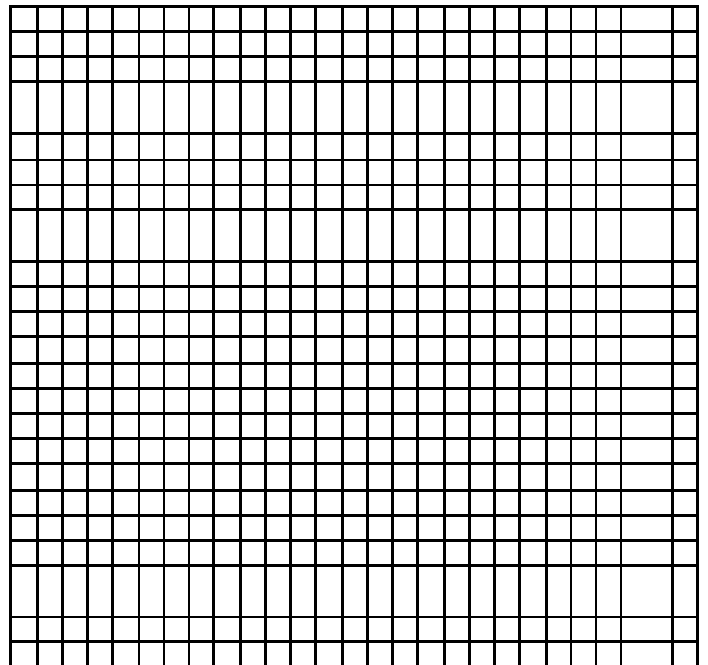
b. axis of symmetry
(take the average of the zeros, add them and divide by 2)

c. maximum or minimum ?
(expand and look at the coefficient of x^2
if pos – MIN, if neg – MAX)

optimal value? (substitute axis of symmetry number into the original equation)

4. a. Complete the **difference table** below and then **graph** the data.

x	y	1 st differences	2 nd differences
-2	-6		
-1	3		
0	6		
1	3		
2	-6		
3	-21		



b. Explain how the difference table helps you predict what the graph will look like.

c. Identify the following for the parabola

i) Vertex

ii) Axis of symmetry

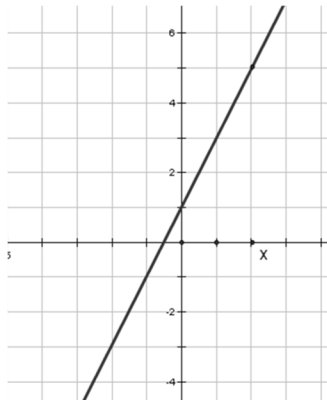
iii) Optimal value

iv) Does this parabola have a maximum or a minimum?

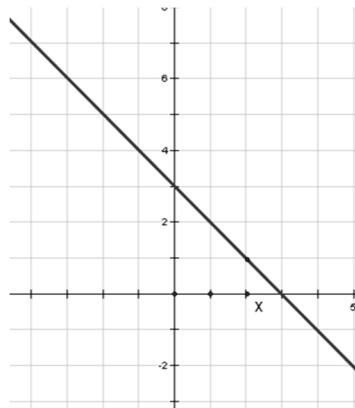
DAY 6 – Linear Relations

6. Find the equation of the line from the following graphs.

a)



b)



7. Find the equation of the line using the given information.

a) the slope is -4 and the y -intercept is 10

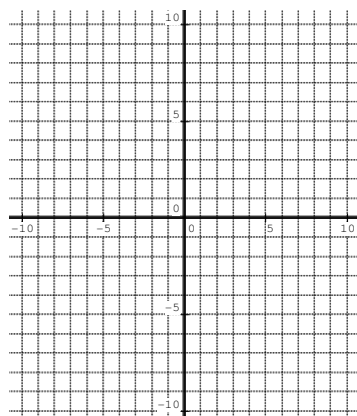
b) the slope is $\frac{2}{3}$ and the y -intercept is -2 .

c) the slope is 5 and passes through the point $(1, 8)$

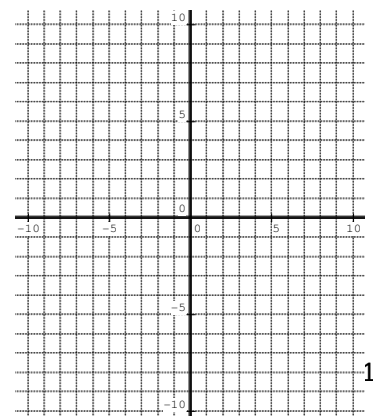
e) the y -intercept is 6 and passes through the point $(3, 12)$

8. Graph the following using the slope/ y -intercept method.

a) $y = -\frac{3}{4}x + 5$



b) $y = 2x - 3$



9. Calculate the **slope** for the given two points:

a. A(-3, 15) and B(3, -5).

Ex. A(3, -7) and (-1, 5)

Put negatives in the numerator, and remember that **NEGATIVE RISE** will go **DOWN**. **RUN** is always to the **RIGHT**

10. Determine the **equation of the line** which passes through the given points

a. (-4, 5) and (2, -7).

Ex. (-3, 5) and (1, 11)

- Need to write the equation of a line which will be in the form $y = mx + b$
- find m first by the slope formula
- then find b by substituting ANY one of the given points for x and y in the equation.
- remember to rewrite the final equation!

11. Solve the following system of equations using either **substitution** or **elimination**.

Ex.

Substitution method

- isolate one variable (the one that does not have coefficient in front of it)
- substitute the result into the other equation (remember to put it in for the CORRECT variable)
- expand and solve
- substitute in 1
- check in 2
- therefore POI is (,)

LS | RS

Therefore POI is (-1, 2)

Elimination method

- choose a variable to eliminate
- make the coefficients the same by multiplying EVERY term of the equation
- add/subtract the two equations to eliminate one variable
- substitute in 1
- check in 2
- therefore POI is (,)

$$3x + 4y = 5$$

$$x - 5y = -11$$

$$\cdot(-3) \rightarrow$$

$$3x + 4y = 5$$

$$\underline{-3x + 15y = 33}$$

$$0x + 19y = 38$$

$$\frac{19y}{19} = \frac{38}{19}$$

$$y = 2$$

the rest is the same as the substitution method last three steps.