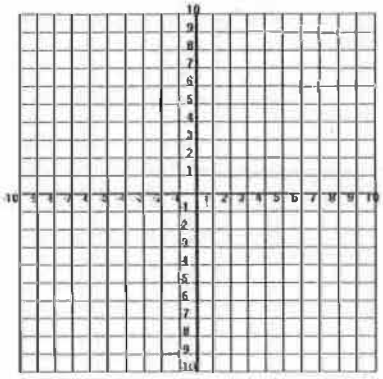
part I: slope & Intercepts practice test

NAME_____

1. Plot the line segment with the following endpoints:
   $J(2,3), K(-4,-7)$

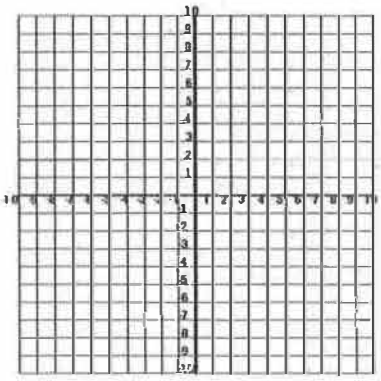


2. What is the slope of the line segment above?

3. What are the coordinates of two other points on the line?

4. What is the slope of a line perpendicular to JK?

5. Plot the line segment FG with endpoints at $F(1,-1)$ and ~~a midpoint~~ at $G(3,5)$.



6. What is the slope of the line segment above?

7. What is the slope of a line parallel to FG.

8. Plot a parallel line through $H(0,6)$

9. The peaked roof on a hut has a pitch of 3/5. If the roof has a total span of 12m, how tall is the roof?

10. Find the x-intercept and y-intercept of a line that has the equation $2x + 3y = 18$.

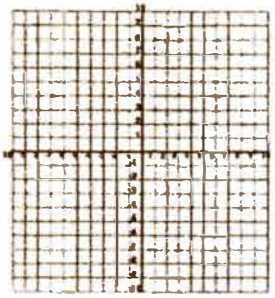
11. A line has a slope of $\frac{-3}{5}$ and an x-intercept at $(-10,0)$. Find the y-intercept.

12. A line has a slope of $\frac{5}{2}$ and an y-intercept at $(0,-10)$. Find the x-intercept.

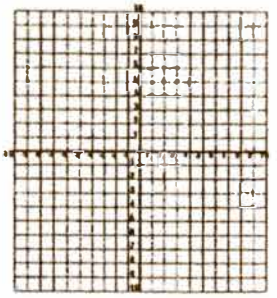
13. Find the slope of a line segment that is parallel to GH if $G(4, -3)$ and $H(3, -7)$.

14. Find the slope of a line segment that is perpendicular to KL if $K(-1, -8)$ and $L(0,0)$.

15. Plot the line through the point (2,3) with a slope of -2.



16. Plot the line through the point $(-3,2)$ with a slope of $\frac{2}{3}$.



17. Find the value of k so that the following slopes are perpendicular.

$-\frac{3}{5}$ and $\frac{7}{k}$

18. Find the value of k so that the following slopes are perpendicular.

$\frac{12}{5}$ and $\frac{2k}{3}$

19. **Challenge yourself:**
The centre of a circle is at $C(-12, -25)$ and a point is on the circumference at $(-3, -5)$. Find the length of the circumference to the nearest hundredth.

$C = 2\pi r$

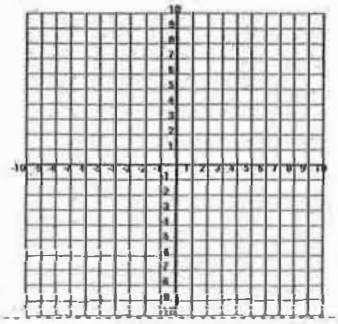
20. **Challenge yourself:**
Calculate the perimeter of a triangle with vertices at $A(-2,0)$, $B(1,4)$ and $C(1,0)$ to the nearest tenth.

Part II: Linear Relations Practice Test

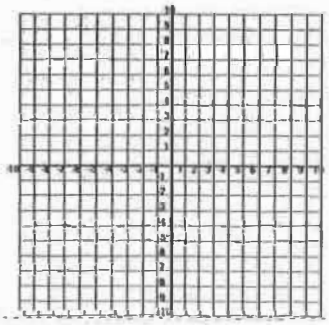
Graphing:

Graph each of the following using whatever method you feel appropriate.

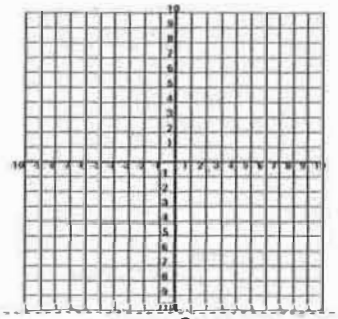
1. $y = -5x$



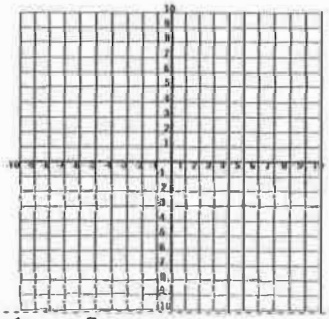
2. $y = -\frac{3}{7}x - 8$



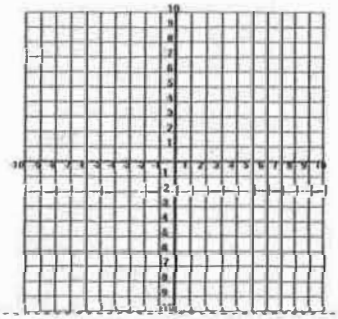
3. $4x - 5y + 20 = 0$



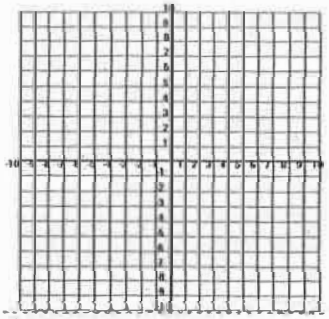
4. $2x + 3y - 6 = 0$



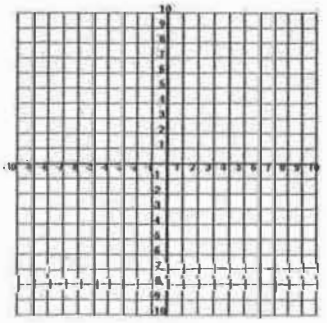
5. $2x - 3 = -\frac{2}{3}y$



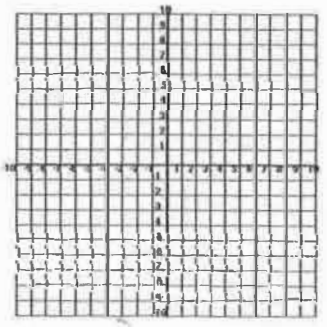
6. $\frac{1}{2}x + \frac{3}{4} = 0$



7. $y = -3$



8. $\frac{1}{2}x - 4 = 0$



Finding Intercepts: (remember...it's OK to have answers that are fraction☺)

9. $2x - 5y + 10 = 0$

x-intercept:

y-intercept:

10. $4x + 7y - 12 = 0$

x-intercept:

y-intercept:

11. $y = \frac{1}{3}x - 5$

x-intercept:

y-intercept:

12. $y + 5 = 0$

x-intercept:

y-intercept:

Writing Equations:

13. Write the equation of the line (in general form) that has a slope of 2 and a y-intercept at -5.

14. Write the equation of the line that passes through (2,5) and has a slope of -5. Answer in slope-intercept form.

15. Write the equation of the line (in general form) that passes through the point (-2,3) and (5,4).

16. Determine the value of y if the slope of a line is -3 and the line passes through (2,-1) and (21,y).

17. Two perpendicular lines intersect on the y-axis. The equation of one line is $3x - 4y + 12 = 0$. Find the equation of the other line in general form.

18. Two perpendicular lines intersect on the x-axis. The equation of one line is $y = \frac{1}{2}x - 4$. Find the equation of the other line in general form.

19. Determine the equation of the line with undefined slope that passes through (7 ,9). Answer in general form.

20. Determine the equation (slope-intersect form) of theline with an x-intercept of 6 that is perpendicular to the line represented by:

$$2x - 4y + \frac{9}{3} = 0$$

Extras...

21. Find the x-intercept:

$$\frac{3}{y} - \frac{2}{x} = 0$$

22. Find the value of k that makes $3x + ky - 14 = 0$ parallel to $2x + 5y - 11 = 0$.

* Bonus

23. Find the coordinates of the point directly between the x-intercept and y-intercept of $3x - y + 21 = 0$.

24. Find the value of k that makes $3kx + 2y = 12$ perpendicular to $4x - 5y - 15 = 0$.