

Assignment #2 - Linear Function
MATH CST 404

/40

Due: _____

Name: _____

A - Multiple Choice - select only one answer, 4 points each

1. A line in the Cartesian plane has the equation $3x - 4y = 12$. What is the slope of this line?

a) 3

c) -3

b) $3/4$

d) $-3/4$

2. Points A(-5, -3) and B(10, 18) are on the same line in the Cartesian plane. What is the equation of the line passing through points A and B?

a) $7x - 5y = -20$

c) $1.4x + 4y = 0$

b) $1.4x + 10y = 18$

d) $7x + 5y = 20$

3. Line 1 has the equation $y = -2x + 5$. Line 2 is parallel to line 1 and passes through the point (13, 27). Which of the following is the equation of line 2?

a) $y = -2x + 1$

c) $y = 1/2x + 27$

b) $y = 1/2x + 20.5$

d) $y = -2x + 53$

4. The table of values below defines a linear function. Which of the following represents the equation of that line in functional form?

X	-3	1	4	10
Y	2.5	12.5	20	35

a) $y = 5/2x + 10$

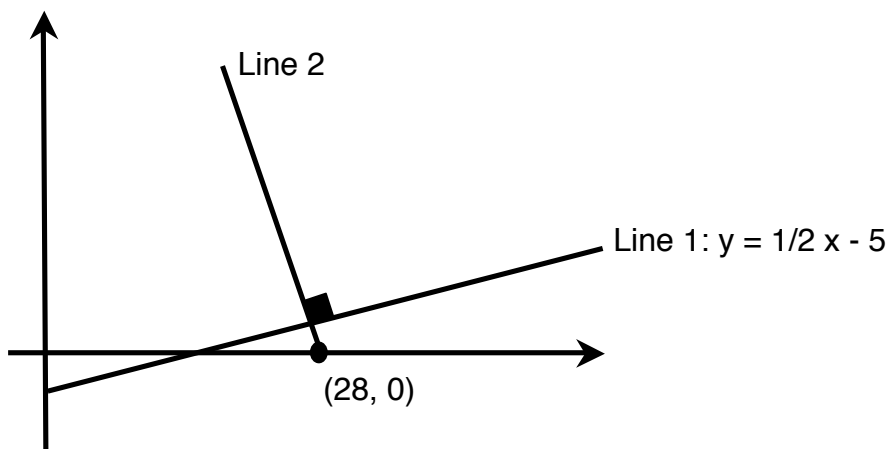
c) $y = 0.4x + 5$

b) $y = 5/2x - 30.25$

d) $y = 5/2x + 60$

B - Short Answer - write your answer in the space provided, 4 points each

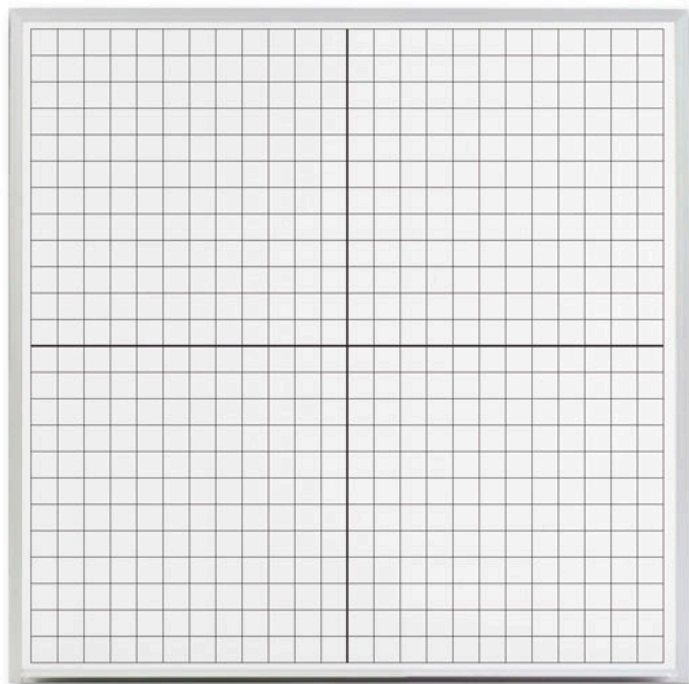
1. The two lines in the Cartesian plane below are perpendicular. The equation of line 1 is given as $y = \frac{1}{2}x - 5$. Determine the equation of line 2, given that its x-intercept is 28.



Equation of line 2: _____

2. Fill out the table of values to graph the following linear function: $3x + 5y = 60$

X	Y



3. Determine the equation of the line passing through (-3, -3) and (-12, 9) in **general form**. There should be no fractions or decimals in your final answer.

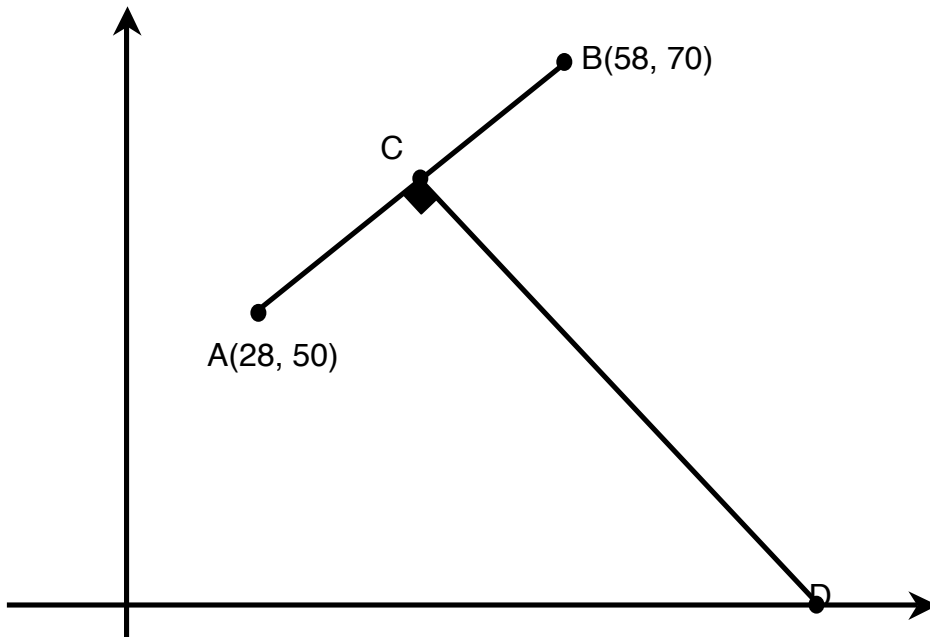
Equation of the line: _____

4. Line 1 has an x-intercept equal to 8 and a slope equal to $\frac{3}{4}$. What is the y-intercept of this line?

y-intercept of line 1 : _____

C - Extended Answer - show all your work/reasoning, 4 points each

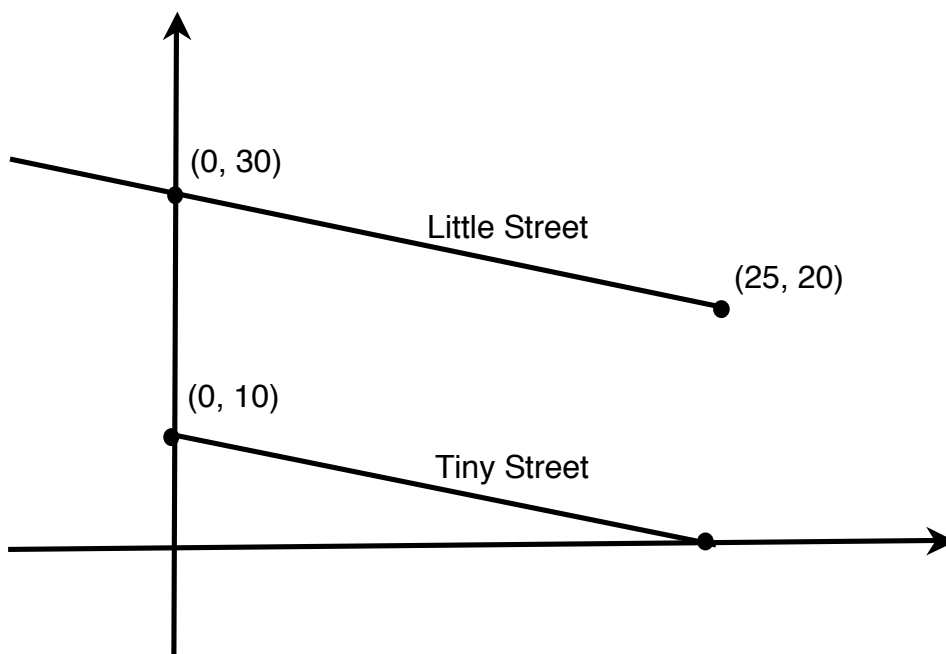
1. In the Cartesian plane below, line CD is the perpendicular bisector of line AB. Determine the x-intercept of the line CD.



The x-intercept of line CD is at _____.

2. The streets of Smalltown are represented in the Cartesian plane below. Little Street passes through the point $(25, 20)$ and has a y-intercept of 30. Tiny Street is parallel to Little Street and has a y-intercept of 10. The endpoints of Tiny Street are at its x-intercept and y-intercept.

How many metres long is Tiny street? The graph is scaled in metres.



Tiny Street is _____ metres long.