

## Lesson 1 Practice Problems

1. Tyler reads  $\frac{2}{15}$  of a book on Monday,  $\frac{1}{3}$  of it on Tuesday,  $\frac{2}{9}$  of it on Wednesday, and  $\frac{3}{4}$  of the remainder on Thursday. If he still has 14 pages left to read on Friday, how many pages are there in the book?

2. Clare asks Andre to play the following number puzzle:

- Pick a number
- Add 2
- Multiply by 3
- Subtract 7
- Add your original number

Andre's final result is 27.

Which number did he start with?

3. In a basketball game, Elena scores twice as many points as Tyler. Tyler scores four points fewer than Noah, and Noah scores three times as many points as Mai. If Mai scores 5 points, how many points did Elena score? Explain your reasoning.

4. Select **all** of the given points in the coordinate plane that lie on the graph of the linear equation  $4x - y = 3$ .

A. (-1, -7)

B. (0, 3)

C.  $(\frac{3}{4}, 0)$

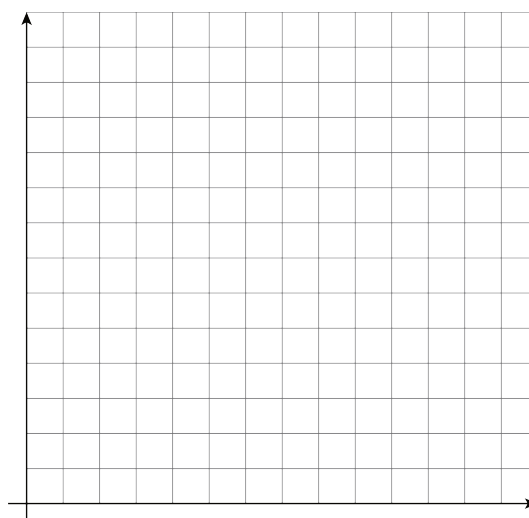
D. (1, 1)

E. (2, 5)

F. (4, -1)

(From Unit 3, Lesson 12.)

5. A store is designing the space for rows of nested shopping carts. Each row has a starting cart that is 4 feet long, followed by the nested carts (so 0 nested carts means there's just the starting cart). The store measured a row of 13 nested carts to be 23.5 feet long, and a row of 18 nested carts to be 31 feet long.



a. Create a graph of the situation.

b. How much does each nested cart add to the length of the row? Explain your reasoning.

c. If the store design allows for 43 feet for each row, how many total carts fit in a row?

(From Unit 3, Lesson 5.)

6. Triangle  $A$  is an isosceles triangle with two angles of measure  $x$  degrees and one angle of measure  $y$  degrees.

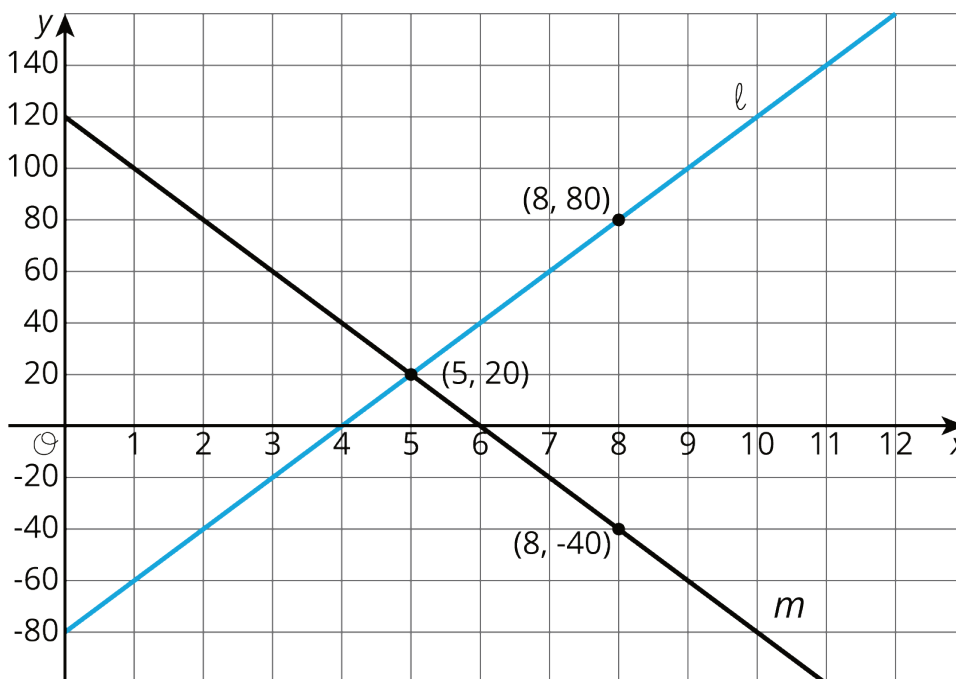
a. Find three combinations of  $x$  and  $y$  that make this sentence true.

b. Write an equation relating  $x$  and  $y$ .

c. If you were to sketch the graph of this linear equation, what would its slope be? How can you interpret the slope in the context of the triangle?

(From Unit 3, Lesson 13.)

7. Consider the following graphs of linear equations. Decide which line has a positive slope, and which has a negative slope. Then calculate each line's exact slope.



(From Unit 3, Lesson 10.)