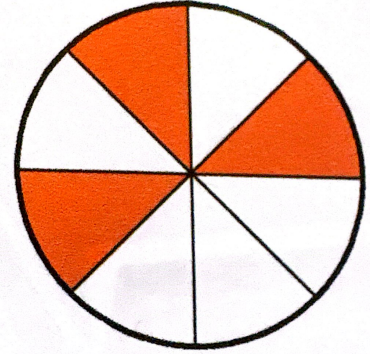


As a reminder, you are welcome to use a non-internet accessing calculator (which includes Desmos Test Mode) and one 2-sided 8.5 in by 11 in sheet of notes.

1. Consider the shaded part of the whole shown on the right.

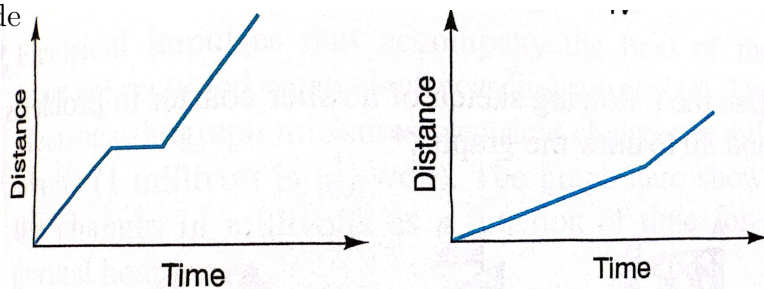
(a) [2] (FactionsActivity #1) Find a fraction for the shaded part of the whole.



(b) [3] (§5.2 #20a) Find a common denominator for the fraction in (a) and  $\frac{5}{6}$ .

2. (ExtraPractice §9.3 #23) Two children go to school along the same road. Mary rode her bicycle but stopped to talk to a friend. Joel walked half the distance and then jogged the rest of the way. The following graphs show distance as a function of time for each of these students with the same scale on both axes.

(a) [3] Match each student with a graph. Provide some justification.



(b) [2] Which student lives closest to school? Justify your answer.

3. [3] (Quiz7 #1) Suppose you have a  $\frac{3}{8}$ -inch drill bit but the hole needs to be the next size down. The set of drill bits is measured in sixteenths of an inch. What size drill will you use?

4. If  $n$  and  $m$  have the prime factorizations:  $n = 5 \times 7 \times 7$  and  $m = 3 \times 5 \times 7$ ,

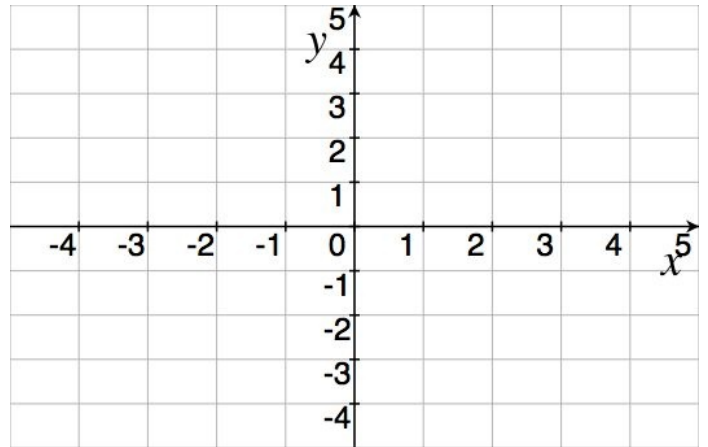
(a) [2] (ActivityGCF#5) What is a common factor of  $n$  and  $m$ ?

(b) [3] (§4.2 #14) What is the least common multiple of  $n$  and  $m$ ?

5. (9.2 #14) Consider the line that passes through  $(-2,4)$  and  $(3,0)$ .

(a) [2] Graph the line on the axis.

(b) [3] Find the equation of the line.



6. [5] (miniquiz & fracActivity #3) Perform the operations. Assume  $a$  and  $b$  are nonzero integers. Write your final answer in lowest terms. (Mixed numbers or improper fractions are both acceptable.)

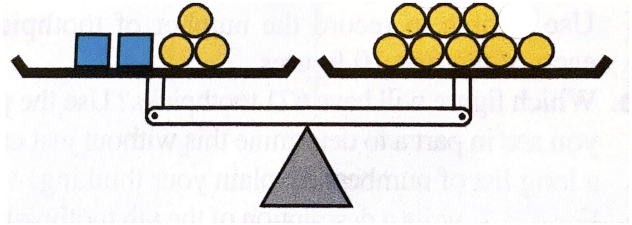
$$\frac{3}{14} + \frac{10}{21}$$

$$\frac{2}{ab} + \frac{1}{3a}$$

$$\frac{4}{5a^2} \times \frac{a}{2a+1}$$

7. (§9.1 #6) Consider the balanced scales.

(a) [2] Determine the number of chips needed to replace each box in order for the scales to balance.

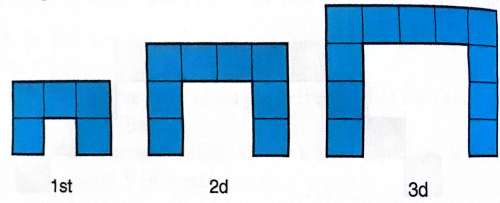


(b) [2] Let  $x$  represent the number of chips for each box, write the corresponding equation that represents the scale.

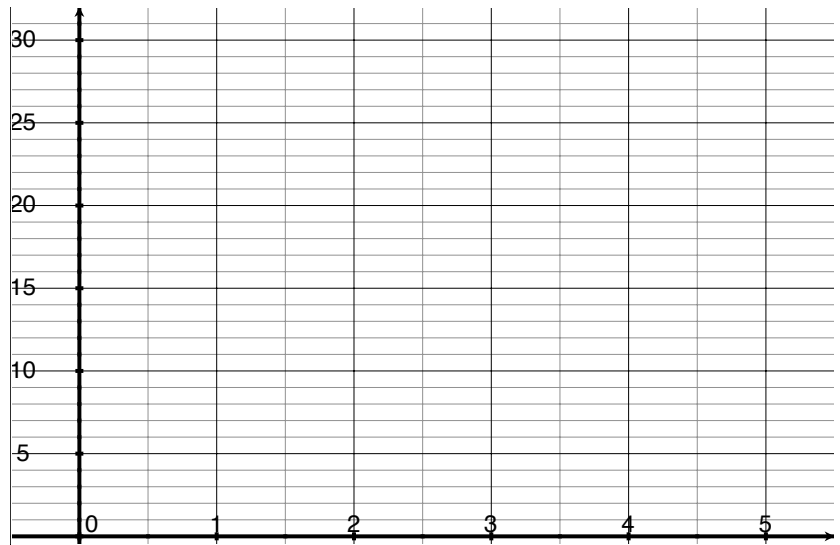
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8. Consider the tile sequence to the right:

(a) [3] (§9.2 #24a) Create an input-output table with the figure number and the number of tiles in each figure for the first 5 figures.



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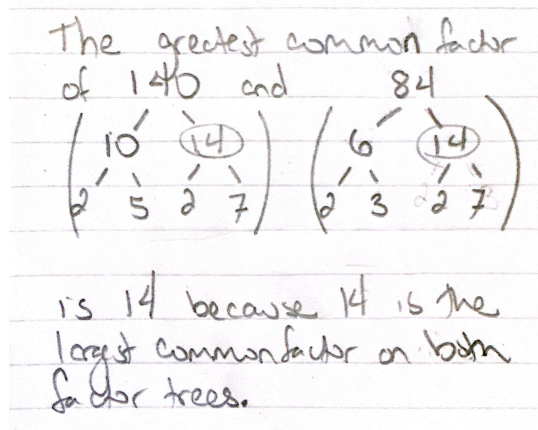


(b) [2] (LinesActivity #3) Graph the coordinate points on the axes.

(c) [3] (§9.2 #23) What figure will have 305 tiles? Provide some work so your process can be followed.

9. Grade the work that follows. The work may be correct or incorrect. If correct, briefly justify why. If incorrect, find the error(s) & try to detect the reason for the error.

(a) [3] (GCFActivity#3)



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(b) [3] (ExtraPractice5.3 #17)

$$\frac{11}{12} \div \frac{1}{3} = \frac{33}{36} \div \frac{12}{36} = \frac{33 \div 12}{36 \div 36} = \frac{33 \div 12}{1} = \frac{33}{12}$$

(c) [3] (Quiz6 #1)

“The multiples of 140 are: 1,2,4,5,7,10,14,20,...”

10. [1] What topic or concept did you study and prepare for, but not see on the exam?