Objective: REVIEW

Day 1

I. Identify the Constant of Proportionality

A. Answer each question.

1. Kim learned in her science class that every 2 minutes she spends in the shower, she uses 17 gallons of water. This rate is constant.

a. If Kim showers for 4 minutes, how many gallons of water will she use?

b. If Kim's sister used 119 gallons of water during her shower, how long was her sister's shower?

c. Identify the constant of proportionality for the time in minutes to the number of gallons.

d. Identify the constant of proportionality for the number of gallons used to the time in minutes.

2. A television time slot has 4 minutes of commercials for every 11 minutes of programming. This rate is constant.

a. If a television program is 88 minutes long, how many minutes of commercials should a viewer expect?

b. If there are 16 minutes of commercials, how long is the television program?

c. Identify the constant of proportionality for the minutes of commercials to the minutes of programming.

d. Identify the constant of proportionality for the minutes of programming to the minutes of commercials.

3. Each week, Best Foot Forward orders 8 boxes of socks for every 3 cases of shoes. This rate is constant.

a. If the store orders 96 boxes of socks one week, how many cases of shoes would it order?

b. This week, Best Foot Forward ordered 27 cases of shoes. How many boxes of socks did the store order?

c. Identify the constant of proportionality for the boxes of socks to the cases of shoes.

d. Identify the constant of proportionality for the cases of shoes to the boxes of socks.

4. In a survey that James conducted of the students in his school, he determined that 3 out of 8 students chose basketball as their favorite sport.

a. How many students choose basketball as their favorite sport if James surveys 240 students?

b. If 225 students chose basketball as their favorite sport, how many students did James survey?

c. Identify the constant of proportionality for the students who chose basketball to the students surveyed.

d. Identify the constant of proportionality for the students surveyed to the students who chose basketball.

5. Leron is weighing pennies for a science experiment. When he weighs 2 pennies, the weight is 5 grams.
a. How many pennies are on the scale if the weight measures 40 grams?

b. How much would 12 pennies weigh?

c. Identify the constant of proportionality for number of pennies to total weight.

d. Identify the constant of proportionality for total weight to number of pennies.

6. The Hidden Valley Cross Country Track Team is participating in a 3-day walka-thon to raise money for their favorite charity. They are asking each donor to pledge $18 for every 6 miles they walk.
a. How much money will the team raise if it walks 150 miles during the walka-thon?

b. How many miles does the team need to walk if they want to raise $615?

c. Identify the constant of proportionality for miles walked to money raised.

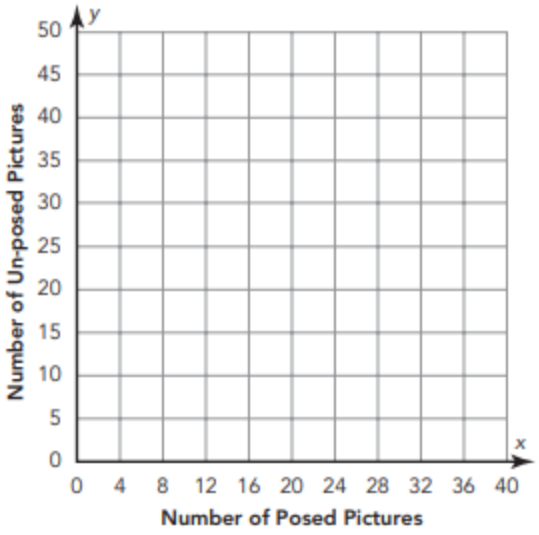
d. Identify the constant of proportionality for money raised to miles walked.

II. Direct Variation

A. Graph each proportional relationship. Then, write a proportion that shows the relationship between the two quantities (using the variables provided in the table) and the constant of proportionality.

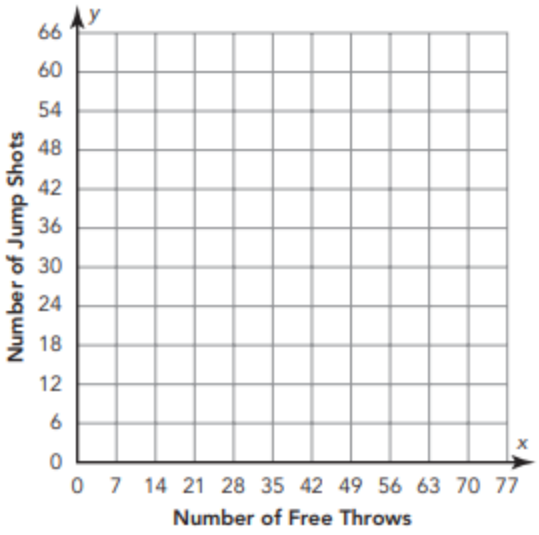
1. Gerald is an event photographer. In his brochure he advertises that for every 4 posed pictures he takes of your event he will take 5 un-posed pictures. The table displays the possible number of posed pictures to the number of un-posed pictures.

Number of Posed Pictures	Number of Un-posed Pictures
posed pictures	un-posed pictures
p	u
16	20
24	30
32	40
36	45



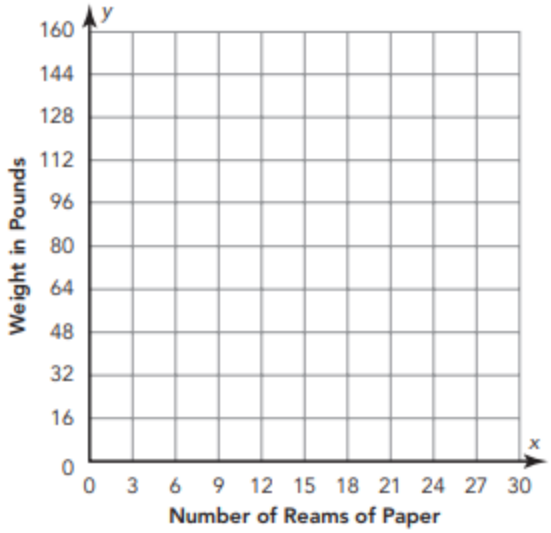
2. Tiffany is practicing her shots for basketball. For every 6 jump shots she practices, she practices 7 free throws. The table displays the possible number of free throws she practiced and the number of jump shots she practiced.

Number of Free Throws	Number of Jump Shots
free throws	jump shots
f	j
14	12
35	30
49	42
70	60



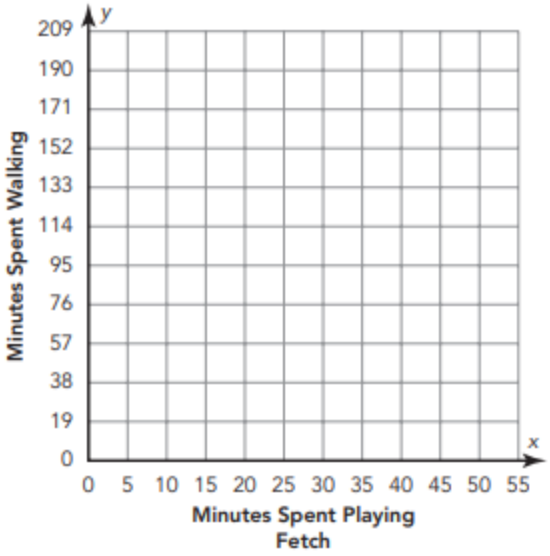
5. Sam is ordering reams of paper for his company using a website. He finds that every 3 reams of computer paper weigh 16 pounds. The table displays the possible number of reams of paper and the weight in pounds for each shipment.

Number of Reams of paper	Weight in Pounds
reams	weight
r	p
9	48
15	80
24	128
27	144



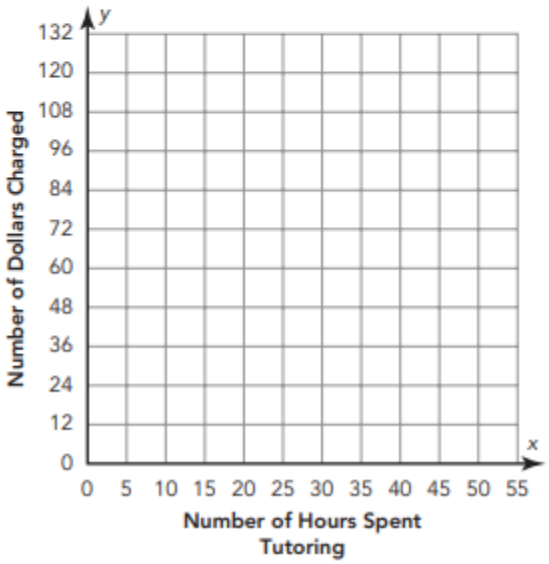
6. Nicholas takes his new puppy outside to get exercise every evening. For every 19 minutes Nicholas and his puppy walk, they play fetch for 5 minutes. The table displays the possible number of minutes Nicholas and his puppy walk and the number of minutes they play fetch.

Minutes Spent Playing Fetch	Minutes Spent Walking
minutes playing fetch	minutes walking
f	w
20	76
25	95
40	152
50	190



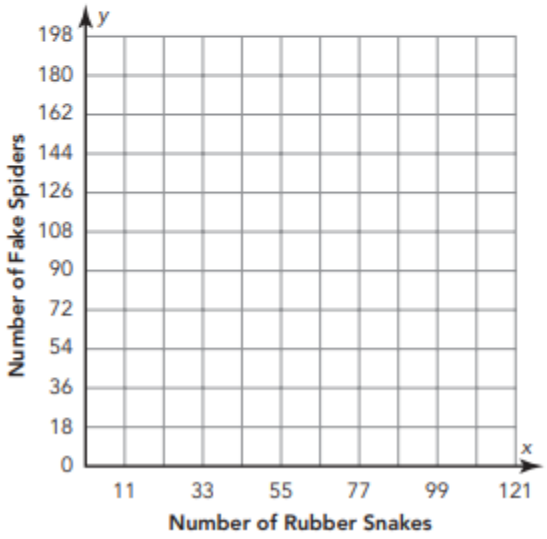
7. This year, you started working in the writing lab. You help fellow students improve the essays and reports they are writing. You charge $12 for 5 hours of tutoring. The table displays the possible number of hours spent tutoring and the number of dollars charged.

Number of Hours Spent Tutoring	Number of Dollars Charged
hours	dollars
h	d
10	24
25	60
35	84
50	120



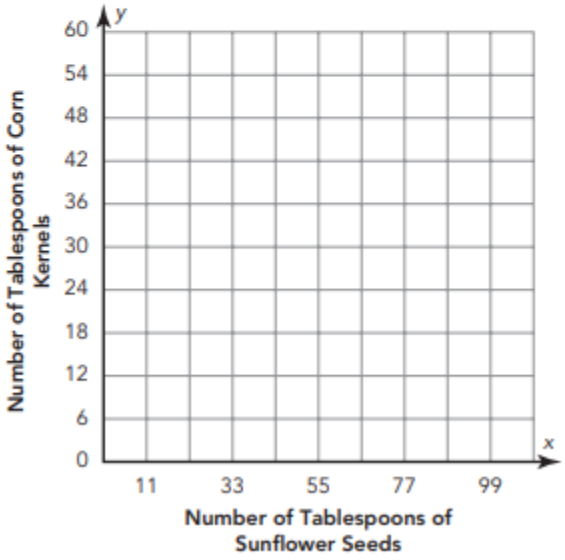
8. Rebecca is putting together packages of items for a joke shop. She has to make sure each package contains 18 fake spiders and 11 rubber snakes. The table displays the possible number of rubber snakes and the number of fake spiders in a package.

Number of Rubber Snakes	Number of Fake Spiders
snakes	spiders
r	f
44	72
77	126
88	144
110	180



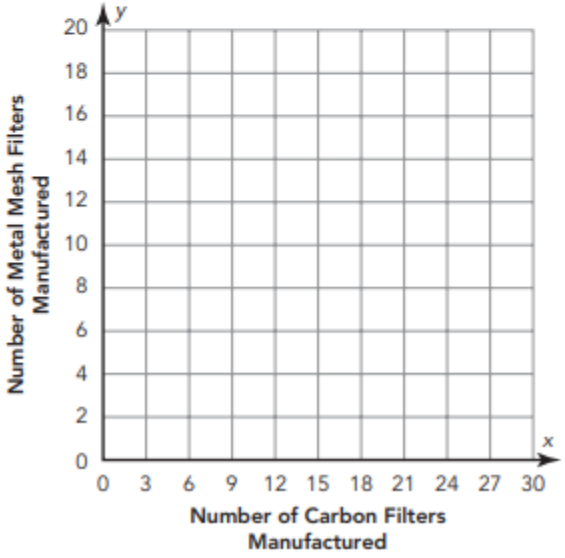
9. Tremaine is making bird feed. For every 6 tablespoons of corn kernels, he puts in 11 tablespoons of sunflower seeds. The table displays the possible number of tablespoons of corn kernels and the number of tablespoons of sunflower seeds in a mixture.

Number of Tablespoons of Sunflower Seeds	Number of Tablespoons of Corn Kernels
tablespoons of seeds	tablespoons of kernels
s	k
22	12
77	42
88	48
99	54



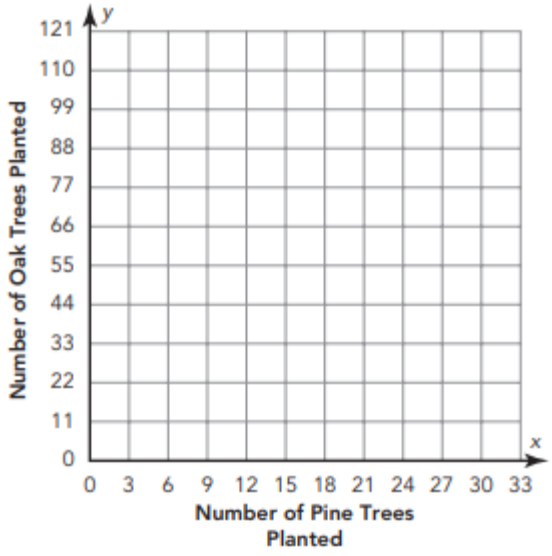
10. Your uncle works as an operations scheduler for a company that manufactures air filters. The company manufactures two metal mesh filters for every three carbon filters. The table displays the possible number of carbon filters manufactured and the number of metal mesh filters manufactured.

Number of Carbon Filters Manufactured	Number of Metal Mesh Filters Manufactured
carbon filters	metal mesh filters
c	m
6	4
15	10
24	16
27	18



11. You are involved in a community treeplanting project. At each planting site, you plant 11 oak trees for every 3 pine trees. The table displays the possible number of pine trees planted and the number of oak trees planted.

Number of Pine Trees Planted	Number of Oak Trees Planted
pine trees	oak trees
p	k
12	44
18	66
24	88
30	110



12. Crystal is studying to become a geologist. For every 4 hours of classroom instruction she receives on earth processes, she also receives 9 hours of lab instruction on earth materials. The table displays the possible number of classroom hours and the number of lab hours.

Number of Lab Hours	Number of Classroom Hours
lab hours	classroom hours
b	c
27	12
54	24
72	32
81	36