

Name: Key Period: \_\_\_\_\_ SCORE: \_\_\_\_\_

## Intermediate 1 - END OF YEAR Review #2

1. Which number is greatest?

$$\frac{2}{7}, 0.279, \frac{3}{11}, 0.3$$

0.3

2. Austin ran  $\frac{5}{6}$  of a mile, Alfonso ran 0.89 miles, Cayden ran  $\frac{7}{8}$  of a mile and Tyler ran 0.86 miles. List the runners in order of the longest distance run to the shortest.

Alfonso, Cayden, Tyler, Austin

Compare the following using  $<$ ,  $>$  or  $=$ :

3.  $\frac{2}{7} < \frac{3}{8}$

4.  $-\frac{3}{4} < -\frac{5}{12}$

Convert the following to mixed numbers:

5.  $\frac{40}{5}$  8      6)  $-\frac{7}{2}$   $-3\frac{1}{2}$

Convert the following to improper fractions:

7)  $-2\frac{2}{9} = \frac{-20}{9}$       8)  $\frac{-24}{7}$       9)  $7\frac{4}{9} = \frac{67}{9}$

Of the 20 problems assigned for homework, Andrew completed 12 of them.

10) What fraction of the homework is finished?

11) What fraction of the homework is left to finish?

Evaluate.

12.  $x + |5 - x|$  when  $x=11$

17

13.  $27 - x \div 2 \cdot y$  when  $x=10$  and  $y=6$

-3

14.  $4ac + 10$  when  $a=3$  and  $c=-5$

-50

15.  $\frac{xy}{2}$  when  $x=4$  and  $y=5$

10

Complete the table.

	Fraction	Decimal	Percent
16.	$\frac{1}{4}$	0.25	25%
17.	$\frac{1}{8}$	0.125	12.5%
18.	$\frac{1}{5,000}$	0.0002	0.02%
19.	$\frac{521}{1,000}$	0.521	52.1%
20.	$3\frac{2}{5}$	3.4	340%
21.	$2\frac{13}{20}$	2.65	265%

22. Find the average rate of change (use units!) for the money you earn mowing lawns.

Hours	2	4	6	8
Dollars	14	26	38	50

$\frac{\$6}{1 \text{ hour}}$

Calculate sales tax and total bill for the following shopping bill if sales tax is 8%.

\$11.00

\$10.50

\$8.75

23. Tax:  $\$0.88$

25. Tax:  $\$0.84$

27. Tax:  $\$0.70$

24. Total bill:  $\$11.88$

26. Total bill:  $\$11.34$

28. Total bill:  $\$9.45$

Calculate the amount saved and the sale price for the following original prices with discounts.

\$8.50

\$10.75

\$3.00

10% off

15% off

20% off

29. Amount saved:  $\$0.85$

31. Amount saved:  $\$1.61$

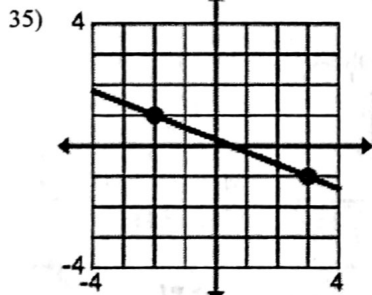
33. Amount saved:  $\$0.60$

30. Sale price:  $\$7.65$

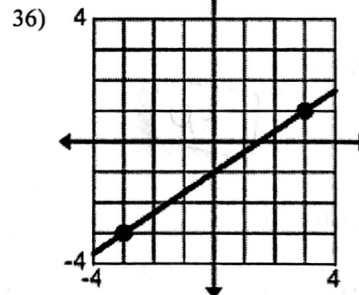
32. Sale price:  $\$9.14$

34. Sale price:  $\$2.40$

Find the constant rate of change. (don't worry about the labels).



$-\frac{2}{5}$

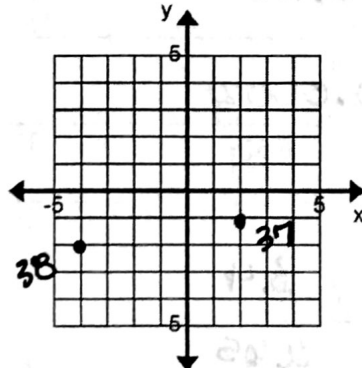


$\frac{2}{3}$

Use the graph to the right.

37) Graph  $(2, -1)$

38) Graph  $(-4, -2)$



For the following problems, find each unit rate. Round to the nearest hundredth if necessary.

39. \$5.85 for 39 lollipops

$$\frac{\$0.15}{1 \text{ lollipop}}$$

40. 236 gallons for 4 minutes

$$\frac{59 \text{ gallons}}{1 \text{ min}}$$

41. \$9.25 for 18 pounds

$$\frac{\$0.51}{1 \text{ pound}}$$

42. A grocery store sells 6 bottles of water for \$4 and 18 bottles of water for \$10. Is the cost of the water proportional to the number sold? Explain.

NO, they don't have the same unit price, so they aren't proportional.

43. Bree can read 22 pages in 30 minutes. It takes Billy 42 minutes to read 28 pages. Who can read faster? WHY?

Bree because  $.7\bar{3} > .6$

44. The table shows the cost for ordering a certain number of glasses of juice. What is the value of  $x$  if the cost is proportional to the number of glasses of juice ordered?

Glasses of Juice Ordered	2	4	5	7
Cost	\$2.58	\$5.16	\$6.45	$x$

$$x = \$9.03$$

45. Hannah can travel 165 miles in 3 hours. At this rate, how far can she travel in 7 hours?

385 miles

46. Hanna can read 30 pages in 15 minutes. At this rate, how many pages can she read in 24 minutes?

48 pages

47. Thurman can run 4 miles in 28 minutes. At this rate, how long will it take her to run 6 miles?

42 minutes

48. The cost for 15 bags of candy is \$60. How much will one bag of candy cost?

\$4.00

49. There are twelve pens in each package. How many are there in four packages?

48 pens

50. You are making cookies that call for  $\frac{1}{4}$  cup of brown sugar. You want to double the batch of cookies. How much brown sugar will you need to make the two batches of cookies?

$\frac{1}{2}$  cup

51. Tom was assigned to read  $\frac{1}{3}$  of a book in English class. He read  $\frac{1}{4}$  of the book before dinner. How much does he need to read after dinner?

$\frac{1}{12}$  of the book

52. In a classroom of 7<sup>th</sup> graders, the ratio of blue eyes to brown eyes is 3:5. If there are 15 blue eyed students, how many brown eyed students are there?

25 brown eyed students

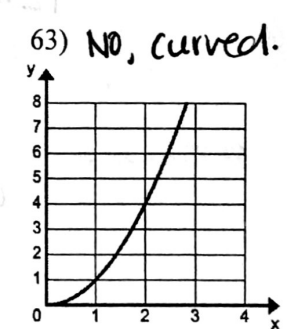
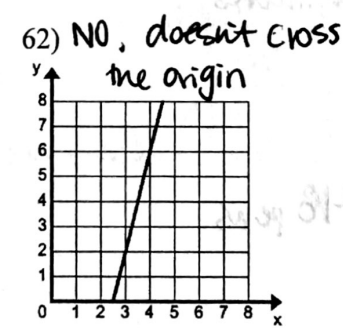
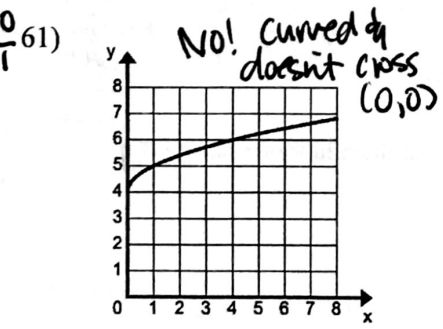
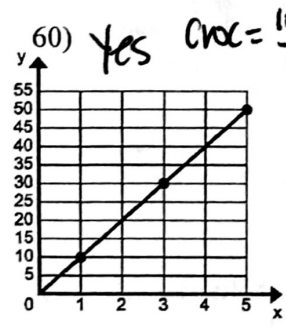
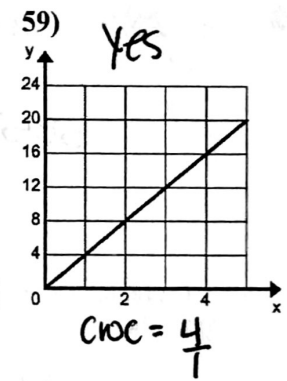
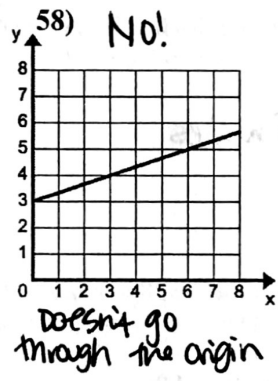
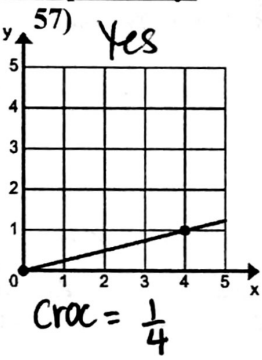
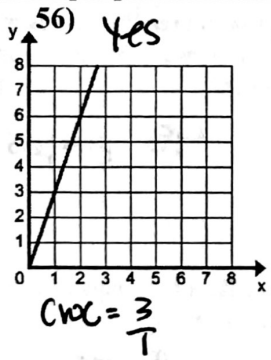
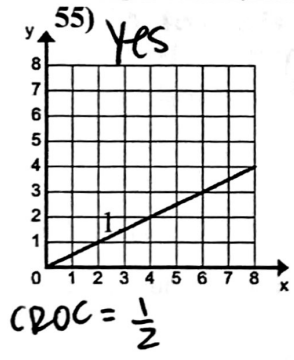
53. Reese can get a 24-pack of bottled water for \$6.80. How much would Myshayla have to pay for a 12-pack of bottled water if the ratios are proportional? \$3.40

Number of notebooks	1	5	10	15
Cost (\$)	4	12	22	32

54. Brinley paid four dollars for her first notebook and two dollars for each notebook after that. Is the cost proportional? Explain.

NO, each  $\frac{y}{x} \neq$  the same thing.  
Also (0,0) would not be in the table.

Determine if the following graphs or tables are proportional. If they are, then state the constant rate of change. If they are not proportional, then explain why.



64)

Hours	1	2	3	4
Dollars	3	6	9	12

Yes!  
CROC = 3 or  $\frac{3}{1}$  hour

65)

Minutes	0	5	10	15
Feet	0	30	70	90

NO!  
 $\frac{30}{5} = 6$  But  
 $\frac{70}{10} = 7$ .

66)

Year	2	4	6	8
Height	13	26	39	52

Yes!  $\frac{6.5 \text{ height (inches)}}{1 \text{ year}}$

67)

Seconds	1	2	3	4
Cost	7	14	28	56

Yes!  $\frac{7 \text{ (cost)}}{1 \text{ second}}$

Which arithmetic property is shown? (Commutative, Associative, Identity, Multiplicative Property of Zero)

68)  $1 \cdot (5 \cdot 9) = (1 \cdot 5) \cdot 9$

Associative Property

69)  $4 + b = b + 4$

Commutative Property

70)  $m \cdot n = n \cdot m$

Commutative

71)  $8 + 0 = 8$

Identity

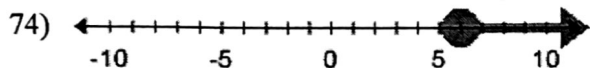
72)  $7 \cdot 1 = 7$

Identity

73)  $(1+r)+s = 1+(r+s)$

associative

Write an inequality for each graph.



$x \geq 6$



$x < 0$

Solve. Show work.

76)  $\frac{2}{3} + \frac{3}{4}$   
 $\frac{17}{12}$

77)  $\frac{2}{5} \cdot \frac{1}{4}$   
 $\frac{1}{10}$

78)  $4 \div \frac{3}{4}$   
 $\frac{16}{3}$

79)  $2\frac{3}{5} - \frac{4}{5}$   
 $\frac{9}{5}$

Find the greatest common factor of each pair of monomials.

80.  $3x, 6$

3

81.  $12w, 18wx$

$6w$

82.  $16xy, 32xy$

$16xy$

83.  $25x, 15xy$

$5x$

84.  $42mn, 14mn$

$14mn$

85.  $12, 28c$

4

Factor the expressions.

86.  $18x + 14$

$2(9x + 7)$

87.  $5y - 15$

$5(y - 3)$

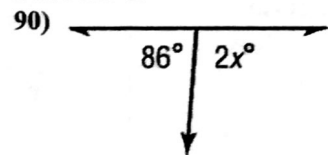
88.  $32w + 8$

$8(4w + 1)$

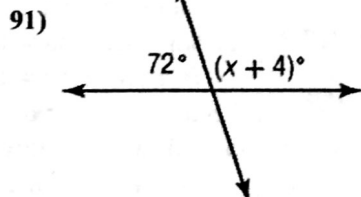
89.  $6x + 9$

$3(2x + 3)$

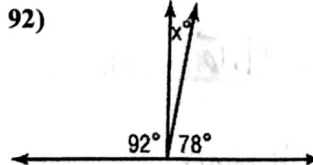
Solve for x.



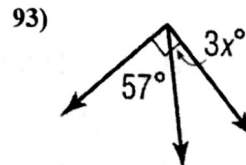
$x = 47$



$x = 104$

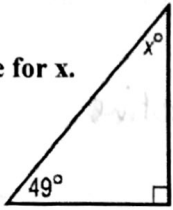


$x = 10$



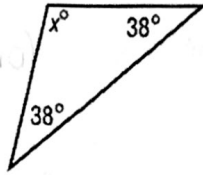
$x = 11$

Solve for x.  
94)



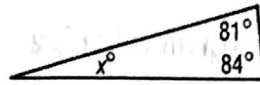
$$x = 41$$

95)



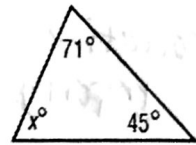
$$x = 104$$

96)



$$x = 15$$

97)



$$x = 64$$

98. Last year the backgammon club had 30 members. This year the club has 24 members. Find the percent of decrease in the number of members.

20% decrease

99. In the seventh grade, Nicole read 15 books. In the eighth grade she read 18 books. Find the percent of increase in the number of books Rachel read.

20% increase

Convert measurements:

100. 15 lbs = 240 oz

101. 7.3 c = 58.4 fl oz

102. 22 qt = 5.5 gal

103. 23 ft = 7.6 yds

104. 2 mi = 10,560 ft

### Customary Conversions

8 fluid ounces = 1 cup  
2 cups = 1 pint  
2 pints = 1 quart  
4 quarts = 1 gallon  
8 pints = 1 gallon  
3 teaspoons = 1 tablespoon  
16 tablespoons = 1 cup  
16 fluid ounces = 1 pint  
16 ounces = 1 pound  
5,280 feet = 1 mile  
12 inches = 1 foot  
3 feet = 1 yard