Points	Problem	Solve for x. Check your answer to make sure you are correct!
1	A	$\frac{x}{2} - 9 = -1$
2	B	$-\frac{2}{3}x + 4 = -66$
2	C	$\frac{4x}{5} - 12 = -32$
2	D	$-\frac{3}{4}(2x + 5) = 6$
3	E	$5 = -\frac{2}{3}(2x - 6) - 3$
3	F	$-3(2x - 5) = 6x - 15$
3	G	$-\frac{2}{3}(6 - 2x) = 6 - x$
4	H	$x - 12 = \frac{5x + 2}{3}$
4	I	$\frac{2x - 5}{5} - 3 = 3x + 4$
5	J	$\frac{1}{4}(3x - 9) = \frac{3}{2}(x + 6)$

Answers

Problem		
A	x = 16	$\frac{x}{2} - 9 = -1$
B	x = 105	$-\frac{2}{3}x + 4 = -66$
C	x = -25	$\frac{4x}{5} - 12 = -32$
D	x = -13/2	$-\frac{3}{4}(2x + 5) = 6$
E	x = -3	$5 = -\frac{2}{3}(2x - 6) - 3$
F	x = 5/2	$-3(2x - 5) = 6x - 15$
G	x = 30/7	$-\frac{2}{3}(6 - 2x) = 6 - x$
H	x = -19	$x - 12 = \frac{5x + 2}{3}$
I	x = -40/13	$\frac{2x - 5}{5} - 3 = 3x + 4$
J	x = -15	$\frac{1}{4}(3x - 9) = \frac{3}{2}(x + 6)$

Points	Problem	Write the equation of the line containing the two points listed.
1	A	(12 , 10) and (12 , 5)
2	B	(-5 , 4) and (4 , -23)
2	C	(4 , 9) and (-2 , 9/2)
3	D	(-3 , 0) and (1 , -6)
3	E	(1 , -5) and (10 , 23/2)
3	F	(-1 , -2) and (2 , 6)
3	G	(-1 , -1) and (4 , 3)
3	H	(6 , -4) and (-1 , 2)
4	I	(-1 , 10) and (12 , -4)
5	J	(1/4 , 2) and (-5 , 2/3)

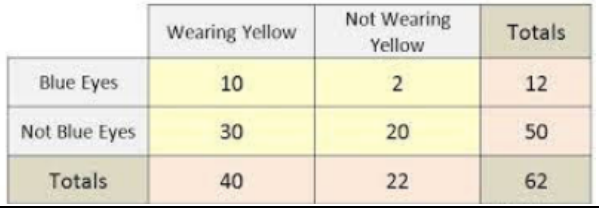
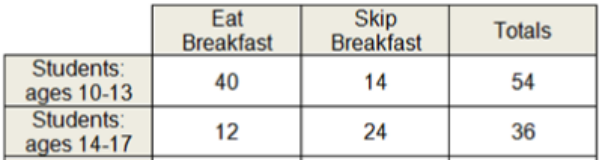
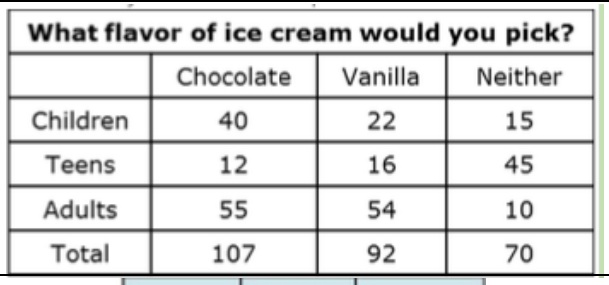
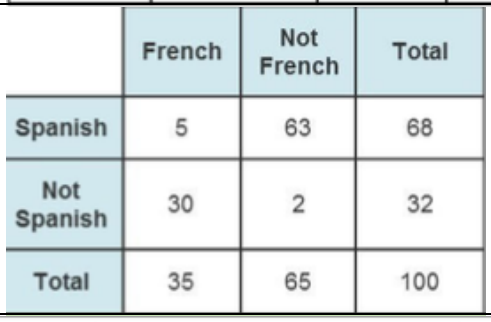
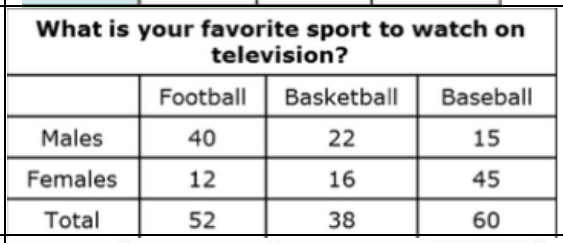
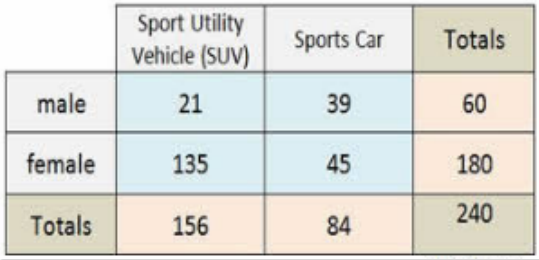
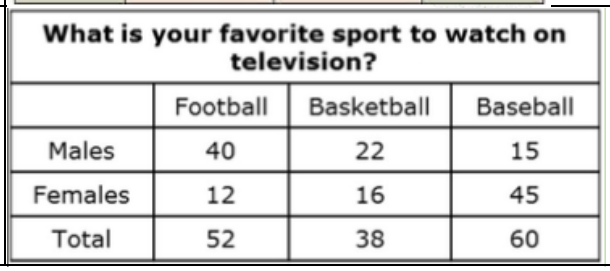
Answers

Problem		
A	$x = 12$	(12 , 10) and (12 , 5)
B	$y = -3x - 11$	(-5 , 4) and (4 , -23)
C	$y = \frac{3}{4}x + 6$	(4 , 9) and (-2 , 9/2)
D	$y = -\frac{3}{2}x - \frac{9}{2}$	(-3 , 0) and (1 , -6)
E	$y = \frac{11}{6}x - \frac{41}{6}$	(1 , -5) and (10 , 23/2)
F	$y = \frac{8}{3}x + \frac{2}{3}$	(-1 , -2) and (2 , 6)
G	$y = \frac{4}{5}x - \frac{1}{5}$	(-1 , -1) and (4 , 3)
H	$y = -\frac{6}{7}x + \frac{8}{7}$	(6 , -4) and (-1 , 2)
I	$y = -\frac{14}{13}x + \frac{116}{13}$	(-1 , 10) and (12 , -4)
J	$y = \frac{16}{63}x + \frac{122}{63}$	(1/4 , 2) and (-5 , 2/3)

Points	Problem	Determine whether the relationship between x and y is linear or nonlinear. Write an equation for the relationship if it is linear. If the relationship is nonlinear explain how you know.
1	A	x: 15, 17, 21, 23 y: 62, 47, 17, 2
1	B	x: 1, 2, 4, 7 y: 24, 21, 18, 15
2	C	x: 5, -5, -13, -21 y: -2, 3, 7, 11
2	D	x: 20, 24, 30, 36 y: 18, 15, 12, 10
3	E	x: 2, 2, 2, 2 y: -5, -1, 7, 20
3	F	x: 10, 20, 30, 40 y: 4, 16, 28, 48
4	G	x: 560, 460, 260, −140 y: 3, 5, 9, 17
4	H	x: -10, -5, 5, 10 y: $\frac{44}{7}$, $\frac{23}{7}$, $\frac{-19}{7}$, $\frac{-40}{7}$
5	I	x: 30, 45, 51, 171 y: 115, 110, 108, 68
5	J	x: 20, 41, 48, 62 y: 24, 12, 8, 0

Answers

Problem		
A	**Linear** $y = -\frac{15}{2}x + \frac{349}{2}$	x: 15, 17, 21, 23 y: 62, 47, 17, 2
B	**Nonlinear**	x: 1, 2, 4, 7 y: 24, 21, 18, 15
C	**Linear** $y = -\frac{1}{2}x + \frac{1}{2}$	x: 5, -5, -13, -21 y: -2, 3, 7, 11
D	**Nonlinear**	x: 20, 24, 30, 36 y: 18, 15, 12, 10
E	**Linear** $x = 2$	x: 2, 2, 2, 2 y: -5, -1, 7, 20
F	**Nonlinear**	x: 10, 20, 30, 40 y: 4, 16, 28, 48
G	**Linear** $y = -.02x + 14.2$	x: 560, 460, 260, −140 y: 3, 5, 9, 17
H	**Linear** $y = -\frac{3}{5}x + \frac{2}{7}$	x: -10, -5, 5, 10 y: $\frac{44}{7}$, $\frac{23}{7}$, $\frac{-19}{7}$, $\frac{-40}{7}$
I	**Linear** $y = -\frac{1}{3}x + 125$	x: 30, 45, 51, 171 y: 115, 110, 108, 68
J	**Linear** $y = -\frac{4}{7}x + \frac{248}{7}$	x: 20, 41, 48, 62 y: 24, 12, 8, 0

Points	Problem	Two-Way Tables
1	A	 How many people surveyed were wearing yellow?
2	B	 True or False: Student ages 14-17 are twice as likely to skip breakfast rather than eat breakfast.
3	C	 True or False: Over 50% of the children surveyed chose chocolate.
3	D	 What percentage of surveyed people speak both French and Spanish?
3	E	 What percentage of men prefer to watch a sport that begins with the letter B?
4	F	 How many times more likely is it for a woman to drive an SUV than a sports car?
4	G	 Suppose a larger group of 300 people were surveyed next. According to the results on this table, how many people could we expect to choose football?

	Wearing Yellow	Not Wearing Yellow	Totals
Blue Eyes	10	2	12
Not Blue Eyes	30	20	50
Totals	40	22	62

	Eat Breakfast	Skip Breakfast	Totals
Students: ages 10-13	40	14	54
Students: ages 14-17	12	24	36

What flavor of ice cream would you pick?			
	Chocolate	Vanilla	Neither
Children	40	22	15
Teens	12	16	45
Adults	55	54	10
Total	107	92	70

	French	Not French	Total
Spanish	5	63	68
Not Spanish	30	2	32
Total	35	65	100

What is your favorite sport to watch on television?			
	Football	Basketball	Baseball
Males	40	22	15
Females	12	16	45
Total	52	38	60

	Sport Utility Vehicle (SUV)	Sports Car	Totals
male	21	39	60
female	135	45	180
Totals	156	84	240

What is your favorite sport to watch on television?			
	Football	Basketball	Baseball
Males	40	22	15
Females	12	16	45
Total	52	38	60

Answers

Problem		
A		40 people were wearing yellow
B		True, since 24 out of 36 students (24/36 = 2/3) is twice the amount of 12/36 students (12/36 = 1/3)
C		True, a total of 77 students were surveyed and 40 (children who chose chocolate) is greater than 50% of 77
D		5%, since 5 people speak both French and Spanish out of 100 total people surveyed and 5/100 = 5%
E		About 48%, 77 total men were surveyed and 22 (men who chose basketball) + 15 (men who chose baseball) = 37. Then, (37/77) x 100 = approx. 48%
F		3 times more likely, since 135 (females driving SUVs)/180 (total) = 0.75 and is three times the value of 45 (females driving sports cars)/180 (total) = 0.25.
G		104 people, since the current total surveyed is 150 and the current number of people who chose football is 54. Setting up a proportion to have a new total of 300 would look like: $\frac{52}{150} = \frac{x}{300}$ Solving for x results in 104 since the scale factor is 2.

	Wearing Yellow	Not Wearing Yellow	Totals
Blue Eyes	10	2	12
Not Blue Eyes	30	20	50
Totals	40	22	62

	Eat Breakfast	Skip Breakfast	Totals
Students: ages 10-13	40	14	54
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Total	52	38	60

	Sport Utility Vehicle (SUV)	Sports Car	Totals
male	21	39	60
female	135	45	180
Totals	156	84	240

What is your favorite sport to watch on television?			
	Football	Basketball	Baseball
Males	40	22	15
Females	12	16	45
Total	52	38	60