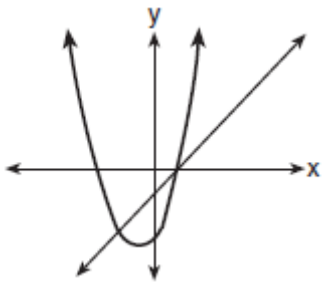
Name: _____

A.G.9: Quadratic-Linear Systems: Solve systems of linear and quadratic equations graphically Note: Only use systems of linear and quadratic equations that lead to solutions whose coordinates are integers

1 The accompanying diagram shows the graphs of a linear equation and a quadratic equation.

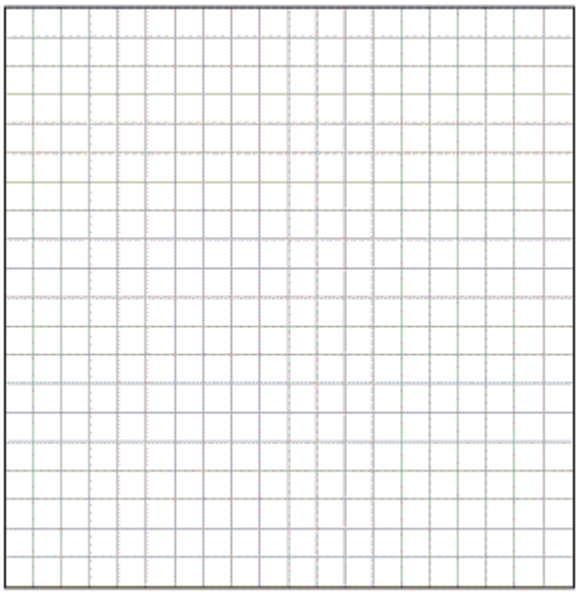


How many solutions are there to this system of equations?
1) 1
2) 2
3) 3
4) 0

2 Solve the following system of equations algebraically *or* graphically for x and y:

$$y = x^2 + 2x - 1$$

$$y = 3x + 5$$



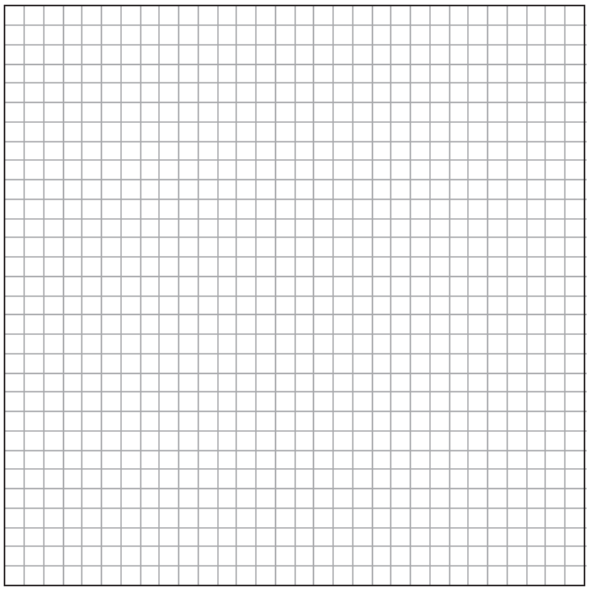
Name: _____

3 Solve the following system of equations:

$$y = x^2 + 4x + 1$$

$$y = 5x + 3$$

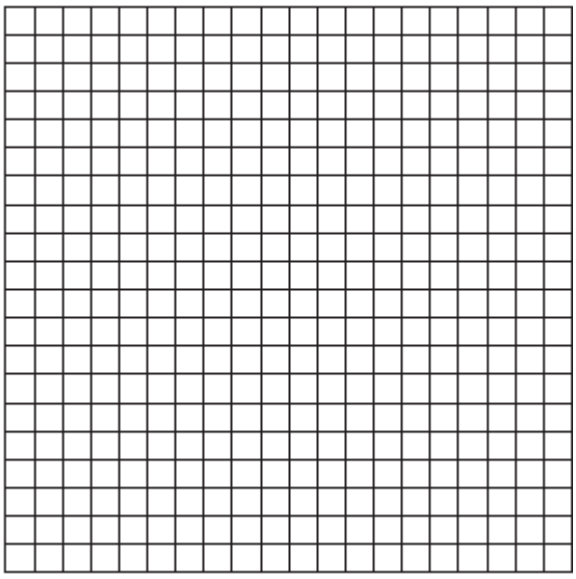
[The use of the grid is optional.]



4 Solve the following system of equations algebraically or graphically for x and y:

$$y = x^2 - 4x + 3$$

$$y = x - 1$$



MES42 Marking Period 3

Homework on Rational Expressions.

1) For which value(s) of x is each expression undefined?

a) $\frac{3x-6}{x-4}$ b) $\frac{x-7}{x+2}$ c) $\frac{3}{2x+4}$ d) $\frac{4-x}{x^2-4}$ e) $\frac{x+5}{x^2-x-6}$ f) $\frac{1}{27-3^x}$

2) Simplify each expression as much as possible:

a) $\frac{9x^4-27x^6}{3x^3}$ b) $\frac{2x^2-12x}{x-6}$ c) $\frac{25x-125}{x^2-25}$ d) $\frac{x^2-3x-10}{x^2-25}$ e) $\frac{x^2-2x-15}{x^2+3x}$

f) $\frac{x^2-25}{x^2-x-20}$ g) $\frac{2x^2+10x-28}{4x+28}$ h) $\frac{x^2-x-6}{x^2-5x+6}$ i) $\frac{x^2-1}{x^2+3x+2}$

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3) Preform the operation, and simplify as much as possible:

a) $\frac{3x+6}{4x+12} \div \frac{x^2-4}{x+3}$ b) $\frac{x^2+9x+14}{x^2-49} \div \frac{3x+6}{x^2+x-56}$ c) $\frac{b^2-4}{2b-6} \div \frac{2-b}{b-3}$ d) $\frac{3x^2+9x}{x^2+5x+6} \div \frac{x^2-9}{x^2-x-6}$

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4) Simplify each sum or difference:

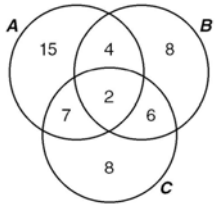
a) $\frac{5x}{6}+\frac{x}{4}$ b) $\frac{3}{x}+\frac{2}{5}, x \neq 0$ c) $\frac{3}{4x}-\frac{2}{5x}$ d) $\frac{x-7}{6}-\frac{3x-2}{12}$ e) $\frac{x^3}{x+3}-\frac{9x}{x+3}$

MES42 Review for Test 7

1) For which value of y will the fraction $\frac{4y+8}{y-6}$ be undefined ?

2) Find the mean, median and mode of the following data set: 2, 7, 5,6, 7, 2, 7,

3) The accompanying Venn diagram shows the number of students who play spring sports. All students in circle *A* play baseball.All in circle *B* run track. All in circle *C* play golf. How many students play either golf or baseball?

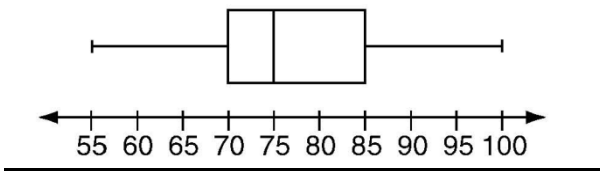


4) Adding two rational expressions leads to a solution of $\frac{5x}{6}$. One expression is $\frac{x}{3}$. What is the other one in lowest terms?	5) Solve algebraically: $\frac{5}{x+7} = \frac{x}{12}$

6) Express the quotient in simplest form:

$$\frac{x^2-x-20}{x^2+7x+12} \div \frac{x^2-25}{2x+10}$$

7) The accompanying box-and-whisker plot represents the scores earned on a science test.



State:

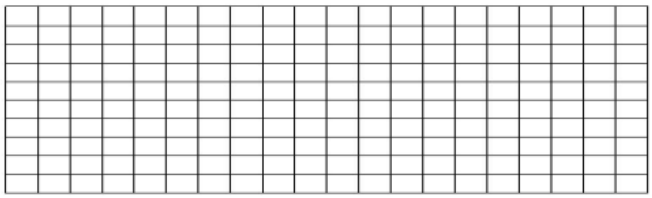
a) Minimum	b) Maximum	c) lower quartile
d)median		e) third quartile

Find the:

f) range	g) interquartile range

8) Sarah's mathematics grades for one marking period were 85, 72, 97, 81, 77, 93, 100, 75, 86, 70, 96, and 80.
(a) Complete the tally sheet and frequency table below, and construct and label a frequency histogram for Sarah's grades using the accompanying grid.
(b) Which interval contains the 50^{th} percentile?

Interval (grades)	Tally	Frequency
61-70		
71-80		
81-90		
91-100		



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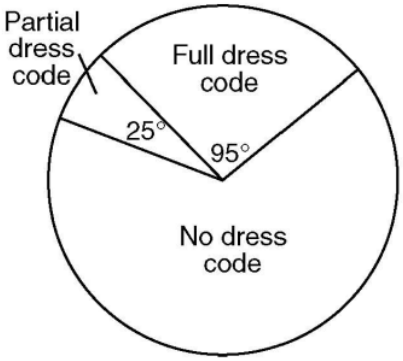
9) Nine hundred students were asked whether they thought their school should have a dress code. A circle graph was constructedto show the results. The central angles for two of the three sectors are shown in the accompanying diagram.What is the number of students who felt that the school should have *no* dress code?



10) 250 bookworms took a survey in a library. 75 like to read both mysteries and science fiction. 160 like to read mysteries and 23 do not like either type of genre. How many people like to read science fiction?