



ALGEBRA 1 IM INTERIM RUBRICS

Algebra 1 Interim A, #11

4 Points:

Student response includes the following:

- Reasoning: complete and correct explanation of how to locate the solution
- Computation: correct solution, (2, 4)
- Reasoning: complete and correct justification of the solution
- Reasoning: complete and correct explanation of why the system in Part B has no solution

Sample Student Response:

Part A

The solution to the system of equations is the point where the lines intersect. The solution to this system is (2, 4). I know this is the solution because when I plug (2, 4) into the equations, both equations are true.

Part B

The system has no solution because the lines in the graph would never intersect, and the point of intersection is what indicates the solution.

3 Points:

3 elements correct.

2 Points:

2 elements correct.

1 Point:

1 element correct.

0 Points:

Incorrect or irrelevant response.

Algebra 1 Interim A, #12

2 Points:

Student response includes the following:

- Modeling: complete and correct comparison
- Modeling: complete and correct work
- Computation: correct answer

Sample Student Response:

The speed of the car is 55 miles per hour and the speed of the train is 45 miles per hour.

Car: $231 \div 55 = 4.2$

Train: $231 \div 45 = 5.13$

Amount of time saved: $5.13 - 4.2 = 0.93$

Lisa would travel 0.93 hour less if she travels by car rather than train.

Note: Accept a rounded answer to the tenths place when determining the time traveling by train. For example, $5.1 - 4.2 = 0.9$ should be accepted. Also, if students convert from hours to minutes, then a range of 54 – 56 minutes would be acceptable answers.

1 Point:

1 or 2 elements correct.

0 Points:

Incorrect or irrelevant response.

Algebra 1 Interim B, #11

3 Points:

Student response includes the following:

- Reasoning: complete and correct explanation for how to determine whether the point $(70, -205)$ is on the graph of $g(x)$
- Reasoning: complete and correct justification showing that $(70, -205)$ is on the graph of $g(x)$
- Computation: correct function, $g(x) = -3x + 5$ or equivalent

Sample Student Response:

The graph represents the function $g(x) = -3x + 5$. I know this because it models the function $y = x$ but it has a slope of -3 and is shifted up 5 units.

If the point $(70, -205)$ is on the graph of $g(x)$, then it must be a solution to the equation for the graph.

$$-205 = -3(70) + 5$$

$$-205 = -210 + 5$$

$$-205 = -205$$

The point $(70, -205)$ is on the graph of $g(x)$.

2 Points:

2 elements correct.

1 Point:

1 element correct.

0 Points:

Incorrect or irrelevant response.

Algebra 1 Interim B, #12

3 Points:

Student response includes the following 4 elements:

Computational component = 1 point

- Correct order of data sets: C, A, B

Reasoning component = 2 points

- Correct interpretation (with strength and direction in context) of the correlation coefficient for data set A.
- Correct interpretation (with strength and direction in context) of the correlation coefficient for data set B.
- Correct interpretation (with strength and direction in context) of the correlation coefficient for data set C.

Sample Student Response:

C, A, B

Data set A: There is a strong, positive relationship between the time spent studying for a test, in minutes, and the score on a test, out of 100.

Data set B: There is a strong, negative relationship between the time spent working, in hours, and the time spent studying, in hours.

Data set C: There is a moderate, positive relationship between the age, in years, and the median weekly earnings, in dollars.

Note: If students state the strength of data set A or B as moderate or data set C as strong, those values should be accepted as correct.

Algebra 1 Interim B, #12 (continued)

2 Points:

Student has correct order of data sets and correct interpretations of the correlation coefficient for 2 of the data sets.

Or

Student does not have the correct order of data sets and has correct interpretations of the correlation coefficient for all 3 data sets.

1 Point:

Student has correct order of data sets and correct interpretation of the correlation coefficient for 0 or 1 data set.

Or

Student does not have the correct order of data sets and has correct interpretations of the correlation coefficient for 2 of the data sets.

0 Points:

Student receives 0 points if none of the elements are correct.

Algebra 1 Interim C, #11

4 Points:

Student response includes the following:

- Part A: algebraic or written explanation for solving the equation
- Part A: correct solution
- Part B: correct value for c that meets the criteria
- Part B: correct factorization of the quadratic for the selected value of c

Sample Student Response:

Part A

$$x^2 + 6x - 4 = 0$$

$$(x + 3)^2 = 4 + 9$$

$$x = -3 \pm \sqrt{13}$$

Note: Answer does not have to be given in simplified form to receive credit. Decimal approximations should also be accepted to receive the computation point, though an explanation would still be required to get the reasoning point. Decimal approximation is 0.606 and -6.606 .

Part B

$c = 5$. If $c = 5$, then $x^2 + 6x + 5 = 0$, which factors to $(x + 5)(x + 1)$.

3 Points:

3 elements correct.

2 Points:

2 elements correct.

1 Point:

1 element correct.

0 Points:

Incorrect or irrelevant response.

Algebra 1 Interim C, #12

4 Points:

Student response includes the following:

- Modeling for Part A: correct work or explanation
- Computation for Part A: correct answer, 5.3 seconds
- Modeling for Part B: complete and correct justification
- Computation for Part B: correct time frame, 0 to 4 seconds

Sample Student Response:

Part A

Graphing the function $h(x) = -16x^2 + 80x + 24$, I see that the parabola crosses the x-axis at 5.3. So, the ball will hit the ground after 5.3 seconds.

Part B

The graph of the function for Jesse has a line of symmetry at $x = 2$. It is to the left and right of this line that the height of the ball will be the same. Since in this context x represents time, its values should be restricted to values greater than or equal to zero. This means the graph has symmetry between the intervals of $x = 0$ to $x = 2$ and $x = 2$ to $x = 4$. Thus the time interval in which the height of the ball can be the same on the way up as it is on the way down is from 0 to 4 seconds.

3 Points:

3 elements correct.

2 Points:

2 elements correct.

1 Point:

1 element correct.

0 Points:

Incorrect or irrelevant response.