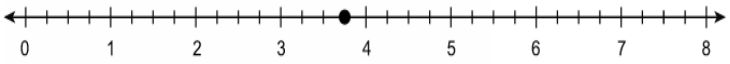
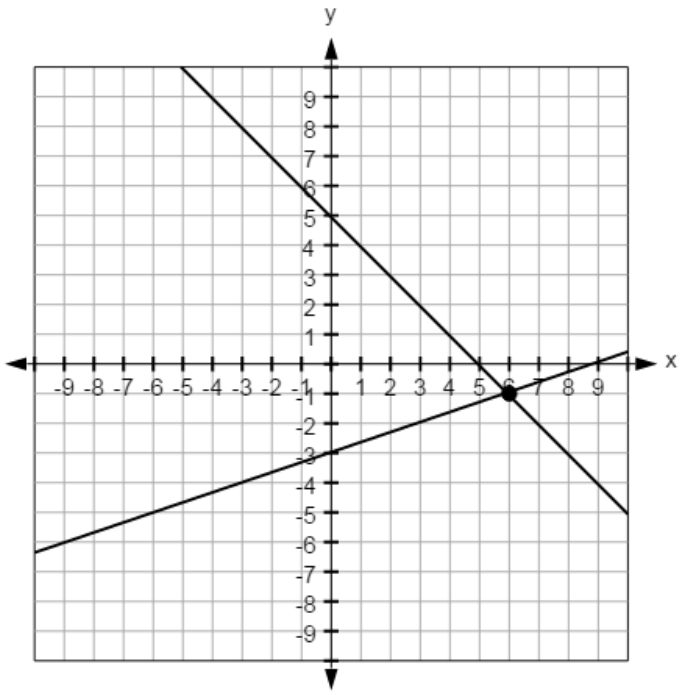
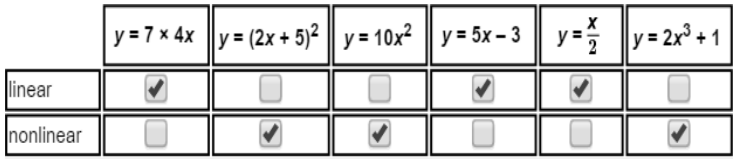
LEAP 2025 Grade 8 Mathematics
Practice Test Answer Key

This document contains the answer keys and rubrics for the LEAP 2025 Grade 8 Mathematics Practice Test.

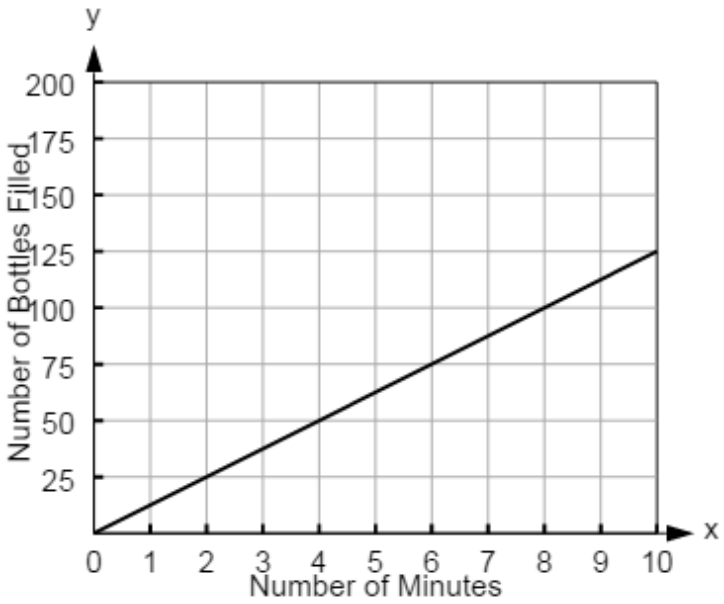
Session 1				
Task #	**Task Type**	**Value (points)**	**Key**	**Alignment**
1	I	1	B, F	8.EE.A.2
2	I	1	D	8.NS.A.1
3	I	2	Part A: D Part B: C	8.G.A.3
4	I	1	C, D	8.F.A.1
5	I	1	It **does represent a function** because **each input has only one output**.	8.F.A.1
6	I	1	D	8.G.A.1b
7	I	2	Part A: A Part B: B	8.G.A.4
8	I	1		8.NS.A.2
9	I	1	A	8.SP.A.2
10	I	1	300	8.EE.A.3

<table>
<tr><th colspan="4">Session 1</th></tr>
<tr><th>Task #</th><th>Task Type</th><th>Value (points)</th><th>Key</th><th>Alignment</th></tr>
<tr><td>11</td><td>I</td><td>1</td><td> 
</td><td>8.EE.C.8a</td></tr>
<tr><td>12</td><td>I</td><td>1</td><td>A, C, F</td><td>8.G.A.1a</td></tr>
<tr><td>13</td><td>I</td><td>1</td><td>-1.4</td><td>8.EE.C.7b</td></tr>
<tr><td>14</td><td>I</td><td>1</td><td>10, -2</td><td>8.EE.C.8b</td></tr>
<tr><td>15</td><td>I</td><td>1</td><td>
<table>
<tr><th></th><th>Increasing</th><th>Decreasing</th><th>Neither Increasing nor Decreasing</th></tr>
<tr><td>$-7 < x < -3$</td><td>☑</td><td>☐</td><td>☐</td></tr>
<tr><td>$-3 < x < -1$</td><td>☑</td><td>☐</td><td>☐</td></tr>
<tr><td>$-1 < x < 1$</td><td>☐</td><td>☑</td><td>☐</td></tr>
<tr><td>$1 < x < 3$</td><td>☑</td><td>☐</td><td>☐</td></tr>
<tr><td>$3 < x < 5$</td><td>☐</td><td>☑</td><td>☐</td></tr>
<tr><td>$5 < x < 7$</td><td>☐</td><td>☐</td><td>☑</td></tr>
</table>
</td><td>8.F.B.5</td></tr>
<tr><td>16</td><td>I</td><td>1</td><td>D</td><td>8.EE.C.8a</td></tr>
<tr><td>17</td><td>I</td><td>1</td><td>A</td><td>8.EE.A.1</td></tr>
</table>

Session 1				
Task #	**Task Type**	**Value (points)**	**Key**	**Alignment**
18	I	1		8.F.A.3
19	I	1	3.9	8.EE.A.4
20	I	1	4	8.EE.C.7b

Session 2				
Task #	**Task Type**	**Value (points)**	**Key**	**Alignment**
21	I	1	14.764 or 14.765	8.G.B.7
22	I	1	12	8.G.B.7
23	I	1	A	8.F.A.2
24	I	2	Part A: A Part B: B	8.F.B.4
25	I	1	A	8.EE.B.5
26	I	1	B, C	8.SP.A.4
27	III	3	rubric	LEAP.III.8.3 (8.EE.B.5)
28	I	1	C	8.EE.A.4
29	I	1	The rate of change in Proportion A is 2.5 less than the rate of change in Proportion B.	8.EE.B.5
30	II	3	rubric	LEAP.II.8.2 (8.EE.C.7a, 8.EE.C.7b)
31	II	4	Part A: C Part B: rubric Part C: rubric	LEAP.II.8.3 (7.EE.A.1)
32	III	3	rubric	LEAP.III.8.1 (8.F.A.2, 8.EE.B.5)

Session 3				
Task #	**Task Type**	**Value (points)**	**Key**	**Alignment**
33	I	1	A, B, C, E	8.EE.B.6
34	I	1	C	8.SP.A.4

Session 3				
Task #	**Task Type**	**Value (points)**	**Key**	**Alignment**
35	I	2	Part A: D Part B: 4.5	8.EE.C.7b
36	I	1	Function B (Least Rate) Function A Function C (Greatest Rate)	8.F.A.2
37	II	3	Part A: rubric Part B: rubric	LEAP.II.8.3 (8.G.A.5)
38	I	1		8.EE.B.5
39	I	2	Part A: C, E Part B: 4.8	8.G.C.9
40	I	1	C	8.EE.B.5
41	III	6	Part A: A, F Part B: rubric Part C: rubric	LEAP.III.8.2 (7.RP.A.1, 7.RP.A.2b, 7.RP.A.3)
42	II	4	Part A: The slope of segment *AB* is [equal to ▾] the slope of segment *BC*. Part B: rubric Part C: rubric	LEAP.II.8.5 (8.EE.B.6)

RUBRICS

Task #27	
Score	**Description**
3	Student response includes the following 3 elements: • **Computation component**: 2 points o Approximate miles per gallon for car M, from 25 to 27 o Approximate miles per gallon for car P, from 28 to 33 • **Modeling component**: 1 point o Valid work shown or explanation given for each answer Sample Student Response: Car M gets approximately 26.5 miles per gallon. I found this by finding an average unit rate for the table for Car M. 50.4 + 80.5 + 181.3 + 137.5 = 449.7 Total Miles 2 + 3 + 7 + 5 = 17 Total Gallons $\frac{449.7}{17} \approx$ 26.5 Miles Per Gallon Car P gets approximately 31.7 miles per gallon. I found this by approximating the points in the graph as (1, 30), (2, 65), (3, 90), (4, 130) and (5, 160). Then I found the average unit rate for these points. 30 + 65 + 90 + 130 + 160 = 475 Total Miles 1 + 2 + 3 + 4 + 5 = 15 Total Gallons $\frac{475}{15} \approx$ 31.7 Miles Per Gallon
2	Student response includes 2 of the 3 elements.
1	Student response includes 1 of the 3 elements.
0	Student response is incorrect or irrelevant.

Task #30	
Score	**Description**
3	Student response includes the following 3 elements: • **Computation component**: 1 point o Correct explanation of why the conclusion is no solution • **Reasoning component**: 2 points o Correctly uses the distributive property o Correctly combines like terms Sample Student Response: $-2(11 - 12x) = -4(1 - 6x)$ $-22 + 24x = -4 + 24x$ Subtracting 24x from each side $-22 + 24x - 24x = -4 + 24x - 24x$ $-22 = -4$ This is impossible, since -22 is not equal to -4. Therefore, there is no solution to the equation.
2	Student response includes 2 of the 3 elements.
1	Student response includes 1 of the 3 elements.
0	Student response is incorrect or irrelevant.

<table>
<tr><th colspan="2">Task #31</th></tr>
<tr><th colspan="2">Part B</th></tr>
<tr><th>Score</th><th>Description</th></tr>
<tr><td>2</td><td>Student response includes the following 2 elements:
Computation component: 1 point
Writes equivalent expressions
Reasoning component: 1 point
Provides a correct series of reasoning to determine that the first expression is always greater than the second expression
Sample Student Response:
I need to compare the expressions, so I will rewrite them by distributing and combining like terms.

$\frac{1}{2}(7x+48) = \frac{7}{2}x + 24$
and
$-\left(\frac{1}{2}x - 3\right) + 4(x+5) = -\frac{1}{2}x + 3 + 4x + 20 = \frac{7}{2}x + 23$

When I compare $\frac{7}{2}x + 24$ to $\frac{7}{2}x + 23$, I can subtract $\frac{7}{2}x$ from both expressions since they give the same value and just compare 24 to 23. Since 24 is always greater than 23, the expression $\frac{1}{2}(7x+48)$ is always greater than the expression $-\left(\frac{1}{2}x - 3\right) + 4(x+5)$.

Notes:
The student does not need to show both equivalent expressions, but can earn this point if it is clear from their explanation that they found equivalent expressions. For example, if the student explains that the only difference between the two expressions is that one has 23 and the other has 24, it is clear that they have found equivalent expressions.
The student may receive a total of 1 point if he or she computes the correct answer, but shows no work or insufficient work to indicate a correct reasoning process.</td></tr>
<tr><td>1</td><td>Student response includes 1 of the 2 elements.</td></tr>
<tr><td>0</td><td>Student response is incorrect or irrelevant.</td></tr>
</table>

Task #31	
Part C	
Score	**Description**
1	Student response includes the following element: • **Modeling component**: 1 point o Student creates any expression using the variable *x* that is always greater than the two given expressions. Sample student response: $\frac{7}{2}x + 25$
0	Student response is incorrect or irrelevant.

Task #32	
Score	**Description**
3	Student response includes the following 3 elements: • **Computation component**: 1 point o Correct unit prices for both gas stations, 4 and 3.80 • **Modeling component**: 2 points o Determines that gas station P charges more for gasoline o Correctly models determining the unit prices and the gas station that charges more for gasoline. Sample Student Response: Based on the unit prices, Gas Station P charges more for gasoline. The unit price for Gas Station P is \$4.00 per gallon since the constant linear graph for Gas Station P shows the point (5, 20), which means it costs \$20 for 5 gallons of gas. The table for Gas Station M shows that 10 gallons cost \$38, so the unit price for Gas Station M is $\frac{38}{10}$ = \$3.80 per gallon.
2	Student response includes 2 of the 3 elements.
1	Student response includes 1 of the 3 elements.
0	Student response is incorrect or irrelevant.

Task #37	
Part A	
Score	**Description**
1	Student response includes the following element: • **Reasoning component**: 1 point o Correctly reasons why $\angle KJN$ and $\angle LJM$ are congruent Sample Student Response: $\angle KJN$ is congruent to $\angle LJM$ because they are the same angle since they exactly overlap.
0	Student response is incorrect or irrelevant.
Part B	
Score	**Description**
2	Student response includes the following 2 elements: • **Reasoning component**: 2 points o Correct pair of corresponding congruent angles, $\angle JKN$ and $\angle JLM$ or $\angle JNK$ and $\angle JML$ o Correctly reasons why the given pair of angles is congruent Sample Student Response: $\angle JKN$ and $\angle JLM$ OR $\angle JNK$ and $\angle JML$ Either line segment JK or line segment MN is a transversal to the parallel line segments KN and LM. When two parallel lines are intersected by a transversal, corresponding angles formed by the transversal are congruent. The pair of angles is also corresponding in terms of their locations in ΔKJN and ΔLJM.
1	Student response includes 1 of the 2 elements.
0	Student response is incorrect or irrelevant.

Task #41	
Part B	
Score	**Description**
3	Student response includes the following 3 elements: • **Computation component**: 1 point o Correct answer, 32 • **Modeling component**: 2 points o Correct strategy to find the total number of cups in a gallon o Correct strategy to find the number of batches of muffins Sample Student Response: There are 2 cups in a pint, 2 pints in a quart, and 4 quarts in a gallon, so there are $2 \times 2 \times 4 = 16$ cups in a gallon. One cup of milk is needed for 24 muffins, so 1 gallon of milk can make $24 \times 16 = 384$ muffins. This means that $384 \div 12 = 32$ batches of muffins can be made using 1 gallon of milk. Notes: • Providing the correct number of cups in a gallon is sufficient for modeling component 1. • The student may show modeling using only equations. If the equations shown represent a valid modeling process, credit should be awarded.
2	Student response includes 2 of the 3 elements.
1	Student response includes 1 of the 3 elements.
0	Student response is incorrect or irrelevant.

Task #41	
Part C	
Score	**Description**
2	Student response includes the following 2 elements: • **Computation component:** 1 point o Correct answer, 7.5 • **Modeling component**: 1 point o Correct strategy to find the number of gallons of milk Sample Student Response: The bakery makes 96 ÷ 12 = 8 batches of muffins each day. In 30 days, the bakery makes 30 × 8 = 240 batches. Since 32 batches can be made with 1 gallon of milk, 240 batches can be made with 240 ÷ 32 = 7.5 gallons of milk. Notes: • The student may receive modeling points if the student shows a sufficient modeling process for some or all of the parts indicated but makes one or more computational errors resulting in incorrect answer(s). • The student may receive computation points if he or she computes the correct answer(s) to one or all of the parts but shows no work or insufficient work to indicate a correct modeling process. • The student may not receive more than 2 total points (from parts B and C) for modeling if the explanations, while sufficient to indicate that the student has a correct process, contain nonsense statements.
1	Student response includes 1 of the 2 elements.
0	Student response is incorrect or irrelevant.

<table>
<tr><th colspan="2">Task #42</th></tr>
<tr><th colspan="2">Part B</th></tr>
<tr><th>Score</th><th>Description</th></tr>
<tr><td>1</td><td>Student response includes the following element:
Reasoning component: 1 point
Correct reasoning using ratios of side lengths
Sample Student Response:
The ratio $\frac{BE}{EA} = \frac{8}{12} = \frac{2}{3}$. The ratio $\frac{CD}{DB} = \frac{4}{6} = \frac{2}{3}$. Since the ratio of the sides of each triangle is $\frac{2}{3}$, the ratios are equal, so $\frac{BE}{EA} = \frac{CD}{DB}$. This means that both segments have the same slope.</td></tr>
<tr><td>0</td><td>Student response is incorrect or irrelevant.</td></tr>
<tr><th colspan="2">Part C</th></tr>
<tr><th>Score</th><th>Description</th></tr>
<tr><td>2</td><td>Student response includes the following 2 elements:
Computation component: 1 point
Correct equation for line t, $y = \frac{2}{3}x + 1$ (or equivalent)
Reasoning component: 1 point
Shows or explains that line t has a slope of $\frac{2}{3}$ and a y-intercept of 1
Sample Student Response:
To find the slope of t, I can take any two points on the line and find the ratio of the rise to the run. Using points A and B, I found the slope to be $\frac{3-(-5)}{3-(-9)} = \frac{8}{12} = \frac{2}{3}$. Then I identified the y-intercept of line t by looking at its graph. The line crosses the y-axis at y = 1, so the y-intercept is 1.
Therefore, the equation of line t is $y = \frac{2}{3}x + 1$.

Notes:
The student may receive a combined total of 2 points if the reasoning processes are correct but the student makes one or more computational errors resulting in incorrect answers.
The student may receive a total of 2 points if he or she computes the correct answers but shows no explanation or insufficient explanation to indicate a correct reasoning.
The student cannot receive more than 1 point for reasoning (from parts B and C) if the explanations, while sufficient to indicate that the student had correct reasoning, contain nonsense statements.</td></tr>
<tr><td>1</td><td>Student response includes 1 of the 2 elements.</td></tr>
<tr><td>0</td><td>Student response is incorrect or irrelevant.</td></tr>
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