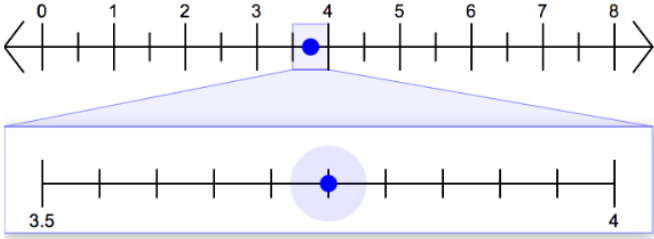


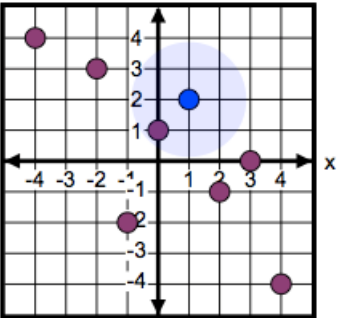
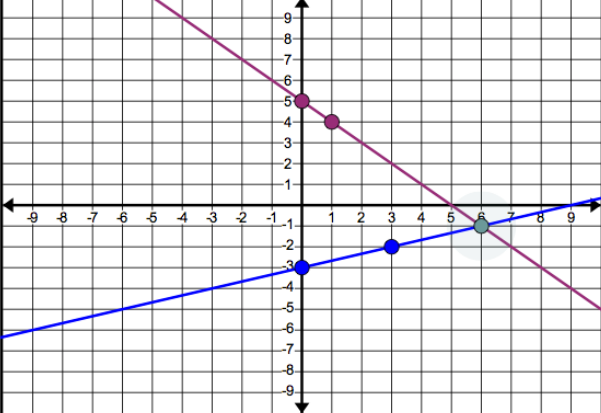
Mathematics – Grade 8
Practice Test Answer and Alignment Document
Online ABO

The following pages include the answer key for all machine-scored items, followed by the rubrics for the hand-scored items.

- The rubrics show sample student responses. Other valid methods for solving the problem can earn full credit unless a specific method is required by the item.
- In items where the scores are awarded for full and partial credit, the definition of partial credit will be confirmed during range-finding (reviewing sets of real student work).
- If students make a computation error, they can still earn points for reasoning or modeling.

| Item Number | Answer Key | Evidence Statement Key/Content Scope | | | | | | | | | | |
|--|---|--------------------------------------|--------|---|---|---|---|---|---|--|---|---------|
| 1. | <p>The response is correct as long as 8 and 10 are input values and 1 and 5 are output values. For example:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Input</th> <th style="text-align: center;">Output</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">4</td> </tr> <tr> <td style="text-align: center;"><input style="width: 50px;" type="text" value="8"/></td> <td style="text-align: center;">6</td> </tr> <tr> <td style="text-align: center;">5</td> <td style="text-align: center;"><input style="width: 50px;" type="text" value="1"/></td> </tr> <tr> <td style="text-align: center;"><input style="width: 50px;" type="text" value="10"/></td> <td style="text-align: center;"><input style="width: 50px;" type="text" value="5"/></td> </tr> </tbody> </table> | Input | Output | 1 | 4 | <input style="width: 50px;" type="text" value="8"/> | 6 | 5 | <input style="width: 50px;" type="text" value="1"/> | <input style="width: 50px;" type="text" value="10"/> | <input style="width: 50px;" type="text" value="5"/> | 8.F.1-1 |
| Input | Output | | | | | | | | | | | |
| 1 | 4 | | | | | | | | | | | |
| <input style="width: 50px;" type="text" value="8"/> | 6 | | | | | | | | | | | |
| 5 | <input style="width: 50px;" type="text" value="1"/> | | | | | | | | | | | |
| <input style="width: 50px;" type="text" value="10"/> | <input style="width: 50px;" type="text" value="5"/> | | | | | | | | | | | |
| 2. | -1 | 8.EE.7.b | | | | | | | | | | |

| 3. | <table border="1"> <thead> <tr> <th>Interval</th> <th>Increasing</th> <th>Decreasing</th> <th>Neither Increasing nor Decreasing</th> </tr> </thead> <tbody> <tr> <td>$-7 < x < -3$</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>$-3 < x < 1$</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>$-1 < x < 1$</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>$1 < x < 3$</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>$3 < x < 5$</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>$5 < x < 7$</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> </tbody> </table> | Interval | Increasing | Decreasing | Neither Increasing nor Decreasing | $-7 < x < -3$ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | $-3 < x < 1$ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | $-1 < x < 1$ | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | $1 < x < 3$ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | $3 < x < 5$ | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | $5 < x < 7$ | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 8.F.5-1 |
|---------------|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|-------------|--------------------------|--------------------------|-------------------------------------|---------|
| Interval | Increasing | Decreasing | Neither Increasing nor Decreasing | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $-7 < x < -3$ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $-3 < x < 1$ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $-1 < x < 1$ | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $1 < x < 3$ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $3 < x < 5$ | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| $5 < x < 7$ | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. |  | 8.NS.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. | C | 8.EE.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6. | $(10, -2)$ | 8.EE.8b-1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7. | <table border="1"> <thead> <tr> <th>function</th> <th>$y = 7 \times 4x$</th> <th>$y = (2x + 5)^2$</th> <th>$y = 10x^2$</th> <th>$y = 5x - 3$</th> <th>$y = \frac{x}{2}$</th> <th>$y = 2x^3 + 1$</th> </tr> </thead> <tbody> <tr> <td>linear</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>non-linear</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> </tbody> </table> | function | $y = 7 \times 4x$ | $y = (2x + 5)^2$ | $y = 10x^2$ | $y = 5x - 3$ | $y = \frac{x}{2}$ | $y = 2x^3 + 1$ | linear | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | non-linear | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 8.F.3-2 | | | | | | | |
| function | $y = 7 \times 4x$ | $y = (2x + 5)^2$ | $y = 10x^2$ | $y = 5x - 3$ | $y = \frac{x}{2}$ | $y = 2x^3 + 1$ | | | | | | | | | | | | | | | | | | | | | | | | |
| linear | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | |
| non-linear | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | |
| 8. | <p>The graph of the system consists of lines that have <input type="text" value="exactly one point"/> of intersection.</p> <p>Therefore, the system has <input type="text" value="exactly one"/> solution.</p> | 8.EE.8a | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9. | D | 8.NS.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10. | A, C, F | 8.G.1a | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11. | <p>Part A: Figure 1 can be transformed onto figure 2 by <input type="text" value="a reflection across the x-axis"/> followed by <input type="text" value="a translation 3 units to the right"/>.</p> <p>Part B: Figure 1 can be transformed onto figure 3 by <input type="text" value="a rotation 90° clockwise about the origin"/> followed by <input type="text" value="a reflection across the x-axis"/>.</p> | 8.G.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12. | There are multiple correct responses. For example: | 8.F.1-2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | |
|-----|---|-----------|
| |  | |
| 13. | B, E | 8.EE.1 |
| 14. |  | 8.EE.8b-2 |
| 15. | A | 8.SP.2 |
| 16. | 300 | 8.EE.3 |