

**10th Mathematics Ohio Graduation Test
Number, Number Sense and Operations**

Benchmark A

Question 18	Spring 2003	D
Question 8	Spring 2004	C
Question 40	Spring 2005	A

Benchmark B

Question 11	Spring 2004	B
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Benchmark C

Question 39	Spring 2003	A
Question 25	Spring 2005	D

Benchmark D

Question 33	Spring 2003	B
Question 42	Spring 2003	D
Question 43	Spring 2005	A
Question 2	Spring 2003	A

Continued

Benchmark E

Question 18	Spring 2003		D								
Question 27	Spring 2003		B								
Question 5	Spring 2004	<p>Sample Response for Item 5 (Short Answer):</p> <p>All in percentage terms Poll 1: $\frac{9}{20} = 45\%$ Poll 2: 52% (given) Poll 3: $\frac{55,000}{130,000} = 42.3\%$</p> <p>Poll 2 is the most favorable, because it suggests that a higher percentage of voters will vote for Candidate A than either of the other polls.</p> <p>Scoring Guidelines for Item 5:</p> <table border="0"> <thead> <tr> <th>Score point</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>2 points</td> <td>The response identifies Poll 2 as the most favorable and shows work used to compare the proportions in each poll through a common measurement.</td> </tr> <tr> <td>1 point</td> <td>The response provides evidence of a partially correct answer and/or solution process. The response shows understanding of some key elements of the task, but contains gaps or flaws.</td> </tr> <tr> <td>0 points</td> <td> <p>The response indicates inadequate or no understanding of the task, and the task does not meet the requirements for one point.</p> <p>For example, the response may:</p> <ul style="list-style-type: none"> Correctly compare two of the polls. Work for the third is incorrect or missing. OR Determine one of the values incorrectly but correctly use the values to make a comparison based on these values. OR Compare the three polls; however, it fails to identify or incorrectly identifies which poll is most favorable for candidate A. OR Identify poll 2 as the correct choice and in the comparison of the three polls fails to use a common measurement. <p>For example, the response may:</p> <ul style="list-style-type: none"> Fail to provide evidence of minimal understanding of the concept. OR Only identify poll 2 as the correct solution without supporting work. OR Recopy information provided in the item with no work. OR Show no apparent understanding of the task. OR Be blank or the student writes, "I do not know" or includes unrelated statements or work. </td> </tr> </tbody> </table>	Score point	Description	2 points	The response identifies Poll 2 as the most favorable and shows work used to compare the proportions in each poll through a common measurement.	1 point	The response provides evidence of a partially correct answer and/or solution process. The response shows understanding of some key elements of the task, but contains gaps or flaws.	0 points	<p>The response indicates inadequate or no understanding of the task, and the task does not meet the requirements for one point.</p> <p>For example, the response may:</p> <ul style="list-style-type: none"> Correctly compare two of the polls. Work for the third is incorrect or missing. OR Determine one of the values incorrectly but correctly use the values to make a comparison based on these values. OR Compare the three polls; however, it fails to identify or incorrectly identifies which poll is most favorable for candidate A. OR Identify poll 2 as the correct choice and in the comparison of the three polls fails to use a common measurement. <p>For example, the response may:</p> <ul style="list-style-type: none"> Fail to provide evidence of minimal understanding of the concept. OR Only identify poll 2 as the correct solution without supporting work. OR Recopy information provided in the item with no work. OR Show no apparent understanding of the task. OR Be blank or the student writes, "I do not know" or includes unrelated statements or work. 	
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Question 41	Spring 2004		D								
Question 13	Spring 2005		A								

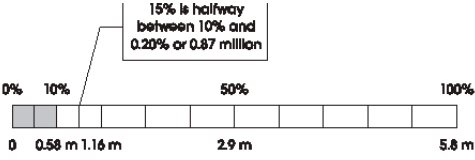
Benchmark F

Question 15	Spring 2004	<p>Sample Response for Item 15 (Short Answer):</p> <p>The area of Florida is larger than the area of the state.</p> <p>OR</p> <p>The ratio of the area of Florida to the area of the state is larger than the ratio of the population of Florida to the population of the state.</p> <p>OR</p> <p>If the state had a population of 12,000,000 people, it could have an area of no more than 43,398 square miles. (any set of numbers with a population less than 14,915,980 and a population density greater than 276.5)</p> <p>Scoring Guidelines for Item 15:</p> <table border="0"> <thead> <tr> <th>Score point</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>2 points</td> <td> <p>The success of this item hinges on the response communicating an understanding that the area of the state must be smaller than the area of Florida in order for the population density to be higher in the case where the population is lower. The supporting work and/or explanation are clear and complete.</p> <p>One approach is a written description of the ratios.</p> <p>Another approach is to actually pick numerical values that give correct answers to this problem.</p> </td> </tr> <tr> <td>1 point</td> <td> <p>The response provides evidence of a partially correct answer and/or solution process. The response shows understanding of some key elements of the task but contains gaps or flaws.</p> <p>For example, the response may:</p> <p>Identify that the area of the state is smaller than that of Florida; however, it states that the population remains the same or is larger than that of Florida.</p> <p>OR</p> <p>Not make a distinction between population and landmass being larger or smaller. The supporting work and/or explanation is not complete or clear.</p> </td> </tr> <tr> <td>0 points</td> <td> <p>The response indicates inadequate or no understanding of the task and/or incorrect use of the key elements or information. The response does not meet the criteria required to earn one point.</p> <p>For example, the response may:</p> <p>Fail to provide evidence of minimal understanding of the concept.</p> <p>OR</p> <p>Recopy information provided in the item with no work.</p> <p>OR</p> <p>Show no apparent understanding of the task.</p> <p>OR</p> <p>Be blank or the student writes, "I do not know" or includes unrelated statements or work.</p> </td> </tr> </tbody> </table>	Score point	Description	2 points	<p>The success of this item hinges on the response communicating an understanding that the area of the state must be smaller than the area of Florida in order for the population density to be higher in the case where the population is lower. The supporting work and/or explanation are clear and complete.</p> <p>One approach is a written description of the ratios.</p> <p>Another approach is to actually pick numerical values that give correct answers to this problem.</p>	1 point	<p>The response provides evidence of a partially correct answer and/or solution process. The response shows understanding of some key elements of the task but contains gaps or flaws.</p> <p>For example, the response may:</p> <p>Identify that the area of the state is smaller than that of Florida; however, it states that the population remains the same or is larger than that of Florida.</p> <p>OR</p> <p>Not make a distinction between population and landmass being larger or smaller. The supporting work and/or explanation is not complete or clear.</p>	0 points	<p>The response indicates inadequate or no understanding of the task and/or incorrect use of the key elements or information. The response does not meet the criteria required to earn one point.</p> <p>For example, the response may:</p> <p>Fail to provide evidence of minimal understanding of the concept.</p> <p>OR</p> <p>Recopy information provided in the item with no work.</p> <p>OR</p> <p>Show no apparent understanding of the task.</p> <p>OR</p> <p>Be blank or the student writes, "I do not know" or includes unrelated statements or work.</p>
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Benchmark G

Question 8	Spring 2003	A
Question 15	Spring 2003	Short Answer, No rubric provided
Question 27	Spring 2003	B
Question 42	Spring 2004	B
Question 11	Spring 2005	C

Benchmark G continued

Question 18	Spring 2005	 <p>$\frac{2}{3}$ of 15% is the same as 10% or 0.58 million.</p> <p>Note: A value of 0.58 million will be accepted as a correct amount of money given to the Toledo Arts Festival.</p> <p>Scoring Guidelines for Item 18:</p> <table border="1"> <thead> <tr> <th>Score point</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>2 points</td> <td>The focus of this item is to find the final amount of money that the Toledo Arts Festival will receive by finding 67% of the 15% that was donated. The response contains a correct value (\$580,000 or \$582,900 or \$583,000 or \$0.58 million) for the contribution to the Toledo Arts Festival. Supporting work or detailed explanation is provided.</td> </tr> <tr> <td>1 point</td> <td>The response provides evidence of a partially correct answer or solution process. The response shows understanding of most of the key elements of the task but contains gaps or flaws. For example, the response may: Provide a correct solution process but give an incorrect amount for the Arts Festival due to errors in computation. OR Provide evidence of a correct first step in the process; e.g., method for finding 15% of \$5.8 million. OR Contain a correct amount—\$580,000 or \$582,900 or \$583,000 or \$0.58 million—with no work or explanation.</td> </tr> <tr> <td>0 points</td> <td>The response fails to demonstrate a minimal understanding of the task. For example, the response may: Include an incorrect amount for the Toledo Arts Festival with no work or explanation to support the solution. OR Show no apparent understanding of the task or possible solution process; e.g., simply adds the three values given in the item. OR Recopy information provided within the item. OR Be blank or state "I do not know," or include unrelated statements or work.</td> </tr> </tbody> </table>	Score point	Description	2 points	The focus of this item is to find the final amount of money that the Toledo Arts Festival will receive by finding 67% of the 15% that was donated. The response contains a correct value (\$580,000 or \$582,900 or \$583,000 or \$0.58 million) for the contribution to the Toledo Arts Festival. Supporting work or detailed explanation is provided.	1 point	The response provides evidence of a partially correct answer or solution process. The response shows understanding of most of the key elements of the task but contains gaps or flaws. For example, the response may: Provide a correct solution process but give an incorrect amount for the Arts Festival due to errors in computation. OR Provide evidence of a correct first step in the process; e.g., method for finding 15% of \$5.8 million. OR Contain a correct amount—\$580,000 or \$582,900 or \$583,000 or \$0.58 million—with no work or explanation.	0 points	The response fails to demonstrate a minimal understanding of the task. For example, the response may: Include an incorrect amount for the Toledo Arts Festival with no work or explanation to support the solution. OR Show no apparent understanding of the task or possible solution process; e.g., simply adds the three values given in the item. OR Recopy information provided within the item. OR Be blank or state "I do not know," or include unrelated statements or work.
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Benchmark H

Question 33	Spring 2003	B
Question 9	Spring 2005	A

Benchmark I

Question 21	Spring 2005	C
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