

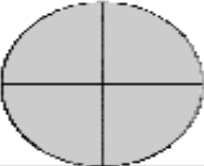
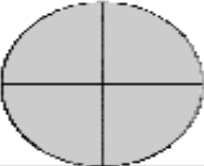
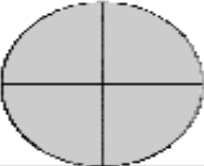
**4th Mathematics Achievement Test
Number, Number Sense and Operations**

Benchmark A

Question 18	May 2009	C
Question 6	March 2008	B
Question 17	March 2006	D
Question 45	March 2006	A
Question 40	March 2007	B

Benchmark B

Question 40	May 2009	C
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Question 10	March 2006	<table border="1"> <thead> <tr> <th>Points</th> <th>Student Response</th> </tr> </thead> <tbody> <tr> <td>2</td> <td> <p>The focus of this task is identifying and describing equivalent forms of fractions that are equal to one. The response provides a fraction equal to one and provides adequate support to show or explain why the fraction is equal to one.</p> <ul style="list-style-type: none"> • $\frac{4}{4}$. It is equal to one because the numerator is the number of parts and the denominator is the number of parts in all. Since they are both 4 it means you have 4 parts and there are 4 parts in all, so it's equal to one.  </td> </tr> <tr> <td>1</td> <td> <p>The response shows partial evidence of identifying and describing equivalent forms of fractions that are equal to one; however, the solution is incomplete or slightly flawed.</p> <p>For example, the response may:</p> <ul style="list-style-type: none"> • Provide a fraction equal to one, but give no or a flawed explanation of why it is equal to one. • State an appropriate explanation but does not indicate a fraction. E.g., a fraction is equal to one when the numerator is equal to the denominator. </td> </tr> <tr> <td>0</td> <td> <p>The response provides inadequate evidence of an understanding of identifying and describing equivalent forms of fractions that are equal to one. The response provides an explanation with major flaws and errors of reasoning.</p> <p>For example, the response may:</p> <ul style="list-style-type: none"> • State a fraction that is not equal to one and does not provide an adequate explanation. E.g., $\frac{4}{4}$ • Be blank or state unrelated statements. • Recopy information from the stem. </td> </tr> </tbody> </table>	Points	Student Response	2	<p>The focus of this task is identifying and describing equivalent forms of fractions that are equal to one. The response provides a fraction equal to one and provides adequate support to show or explain why the fraction is equal to one.</p> <ul style="list-style-type: none"> • $\frac{4}{4}$. It is equal to one because the numerator is the number of parts and the denominator is the number of parts in all. Since they are both 4 it means you have 4 parts and there are 4 parts in all, so it's equal to one. 	1	<p>The response shows partial evidence of identifying and describing equivalent forms of fractions that are equal to one; however, the solution is incomplete or slightly flawed.</p> <p>For example, the response may:</p> <ul style="list-style-type: none"> • Provide a fraction equal to one, but give no or a flawed explanation of why it is equal to one. • State an appropriate explanation but does not indicate a fraction. E.g., a fraction is equal to one when the numerator is equal to the denominator. 	0	<p>The response provides inadequate evidence of an understanding of identifying and describing equivalent forms of fractions that are equal to one. The response provides an explanation with major flaws and errors of reasoning.</p> <p>For example, the response may:</p> <ul style="list-style-type: none"> • State a fraction that is not equal to one and does not provide an adequate explanation. E.g., $\frac{4}{4}$ • Be blank or state unrelated statements. • Recopy information from the stem.
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Question 10	Spring 2007	Scoring Guidelines		
		<table border="1"> <thead> <tr> <th>Points</th> <th>Student Response</th> </tr> </thead> <tbody> <tr> <td>2 point</td> <td> <p>The focus of this task is generating equivalent forms of fractions and decimals. The response provides a fraction and a decimal that represent the number of students wearing hats.</p> <p>$\frac{6}{8}$ 0.75 $\frac{3}{4}$, 0.75</p> </td> </tr> </tbody> </table>	Points	Student Response
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Benchmark C

Question 1	May 2009		B
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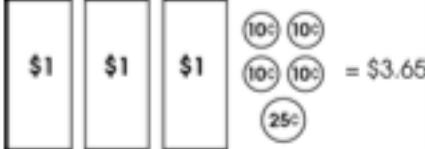
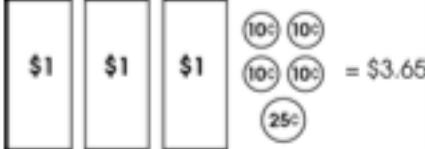
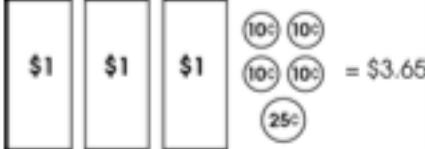
Benchmark D

Question 46	May 2009		A
Question 39	March 2006		B

Benchmark E

Question 2	March 2008		C
Question 36	March 2006		B
Question 16	Spring 2007		C

Benchmark F

Question 11	March 2008		A								
Question 28	March 2006		B								
Question 31	Spring 2007		D								
Question 42	March 2006	<p>Scoring Guidelines</p> <table border="1"> <thead> <tr> <th>Points</th> <th>Student Response</th> </tr> </thead> <tbody> <tr> <td>2</td> <td> <p>The focus of the task is solving problems involving counting money and making change. The response provides the amount of change AND provides a correct list of bills and coins with an adequate explanation or work. Sample Correct Responses:</p> <ul style="list-style-type: none"> Gavin gets back \$3.65. He receives three \$1 bills, two quarters, one dime and one nickel, and $10 - 6.35 = 3.65$. $\\$10 - \\$6.35 = 3.65$ is the change that Gavin gets. Gavin gets back three \$1 bills, six dimes and one nickel because this makes \$3.65. \$3.65 is the change  </td> </tr> <tr> <td>1</td> <td> <p>The response shows partial evidence of solving problems involving counting money and making change; however, the solution may be incomplete or slightly flawed. For example, the response may:</p> <ul style="list-style-type: none"> State a correct amount of change, but not list a correct example of the bills and coins he could receive as change. State an incorrect amount of change, but correctly list a combination of bills and coins that total the given amount of change. </td> </tr> <tr> <td>0</td> <td> <p>The response provides inadequate evidence of solving problems involving counting money and making change. The response provides an explanation with major flaws and errors of reasoning. For example, the response may:</p> <ul style="list-style-type: none"> State an incorrect amount of change and show an incorrect amount of bills and coins he could receive as change. Be blank or state unrelated statements. Recopy information from the stem. </td> </tr> </tbody> </table>	Points	Student Response	2	<p>The focus of the task is solving problems involving counting money and making change. The response provides the amount of change AND provides a correct list of bills and coins with an adequate explanation or work. Sample Correct Responses:</p> <ul style="list-style-type: none"> Gavin gets back \$3.65. He receives three \$1 bills, two quarters, one dime and one nickel, and $10 - 6.35 = 3.65$. $\\$10 - \\$6.35 = 3.65$ is the change that Gavin gets. Gavin gets back three \$1 bills, six dimes and one nickel because this makes \$3.65. \$3.65 is the change 	1	<p>The response shows partial evidence of solving problems involving counting money and making change; however, the solution may be incomplete or slightly flawed. For example, the response may:</p> <ul style="list-style-type: none"> State a correct amount of change, but not list a correct example of the bills and coins he could receive as change. State an incorrect amount of change, but correctly list a combination of bills and coins that total the given amount of change. 	0	<p>The response provides inadequate evidence of solving problems involving counting money and making change. The response provides an explanation with major flaws and errors of reasoning. For example, the response may:</p> <ul style="list-style-type: none"> State an incorrect amount of change and show an incorrect amount of bills and coins he could receive as change. Be blank or state unrelated statements. Recopy information from the stem. 	
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Benchmark I

Question 34	May 2009		D
Question 1	March 2006		D

Benchmark J

Question 11	May 2009		B										
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Question 23	March 2006		B										
Question 36	Spring 2007		C										

Benchmark K

Question 5	May 2009	Scoring Guidelines	
		Points	Student Response
		2 point	<p>Sample Correct Responses:</p> <ul style="list-style-type: none"> $(4 + 4 + 4) + (2 + 2 + 2 + 2 + 2) = 22$ $(4 \times 3) + (2 \times 5) = 12 + 10 = 22$. Draws a picture showing three figures with 4 legs and five figures with two legs and writes that the total number of legs is 22. 22 legs. I multiplied the number of hamsters by 4 and then the number of ducklings by two and added them together. <p>The focus of this task is to provide evidence of solving a multi-step problem involving computations with whole numbers. The response correctly identifies the total number of legs and provides adequate support to show how the answer was found.</p>
		1 point	<p>The response provides partial evidence of solving a multi-step problem; however, the solution may be incomplete or slightly flawed.</p> <p>Sample response</p> <ul style="list-style-type: none"> State that the answer is 22 legs, but not show any work. Show a correct procedure for finding the answer, but not correctly determine the number of legs. E.g., $4 \times 3 = 12$. $5 \times 2 = 10$. Indicate an incorrect answer based on a calculation error; however, shows an appropriate procedure. E.g., $4 \times 3 = 7$, $5 \times 2 = 10$, $7 + 10 = 17$.
0 point	<p>The response provides inadequate evidence of how to solve multi-step problems involving computations with whole numbers. The response will provide major flaws or irrelevant information.</p> <p>Sample response:</p> <ul style="list-style-type: none"> State that $3 + 5 + 4 + 2 = 14$. Be blank or state unrelated statements. Recopy information from the stem. 		

Benchmark K - Continued

Question 35	March 2008		D
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Question 33	March 2006	Scoring Guidelines																			
		Points	Student Response																		
		4 point text	<p>The focus of the task is using appropriate operations with whole numbers to solve a multi-step problem and showing three different solutions. The response provides three correct combinations of 3 and 5 pound bags that result in a total of 60 pounds AND shows which combination makes the most money with a correct strategy or work.</p> <p>Sample response:</p> <ul style="list-style-type: none"> • She can pack: 20 3-pound bags because $3 \times 20 = 60$ OR 12 5-pound bags because $5 \times 12 = 60$ OR 10 3-pound bags and 6 5-pound bags because 10×3 plus $6 \times 5 = 60$. She makes the most money when she puts all the rice into the 3 pound bags since that combination has a value of \$80 and the other two combinations have a value of \$72 and \$76. <p>See table below for other possible combinations and costs.</p> <table border="1"> <thead> <tr> <th>Number of 3 lb bags at \$4 each</th> <th>Number of 5 lb bags at \$6 each</th> <th>Amount of money for both</th> </tr> </thead> <tbody> <tr> <td>20</td> <td>0</td> <td>\$80</td> </tr> <tr> <td>15</td> <td>3</td> <td>\$78</td> </tr> <tr> <td>10</td> <td>6</td> <td>\$76</td> </tr> <tr> <td>5</td> <td>9</td> <td>\$74</td> </tr> <tr> <td>0</td> <td>12</td> <td>\$72</td> </tr> </tbody> </table>	Number of 3 lb bags at \$4 each	Number of 5 lb bags at \$6 each	Amount of money for both	20	0	\$80	15	3	\$78	10	6	\$76	5	9	\$74	0	12	\$72
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15	3	\$78																			
10	6	\$76																			
5	9	\$74																			
0	12	\$72																			
		3	<p>The response provides evidence of using appropriate operations with whole numbers to solve a multi-step problem and showing three different solutions; however, the solution may contain a slight error, a flaw or a vague explanation.</p> <p>For example, the response may:</p> <ul style="list-style-type: none"> • Show three correct combinations of bags, but incorrectly identifies the one of greatest value due to a minor calculation error. • Show three combinations, one of which is incorrect, but correctly finds the one that makes the most based on their combinations. 																		
		2	<p>The response provides partial evidence of using appropriate operations with whole numbers to solve a multi-step problem and showing three different solutions; however, the solution is incomplete and/or contains minor flaws.</p> <p>For example, the response may:</p> <ul style="list-style-type: none"> • Only show two correct combinations and show a strategy for finding which has the greatest value with minor flaws or errors. 																		
		1	<p>The response provides minimal evidence of using appropriate operations with whole numbers to solve a multi-step problem and showing three different solutions. The response has major flaws and errors in reasoning.</p> <p>For example, the response may:</p> <ul style="list-style-type: none"> • State that the most expensive bag would be \$80. • State at least two combinations of bags equaling 60 pounds correctly. 																		
		0	<p>The response provides inadequate evidence of using appropriate operations with whole numbers to solve a multi-step problem and showing three different solutions.</p> <p>For example, the response may:</p> <ul style="list-style-type: none"> • Show one correct combination. • State that the bags will cost any correct amount without showing work or stating if it is the most expensive or not. • Be blank or make unrelated statements. • Recopy information given in the stem. 																		
Question 6	Spring 2007		C																		

Benchmark L

Question 37	May 2009	C
Question 46	Spring 2007	D

Benchmark M

Question 46	March 2008	B
Question 6	March 2006	D