

Algebra 1
Evaluating Functions from Representations

Evaluating Functions | A1-U04-P04
96 problems · Four activity formats

01	Answer Bank Challenge	24 tasks
02	Grid Rounds	24 tasks
03	Match & Move	24 cards
04	Error Analysis & Strategy	24 tasks
05	Quick Answer Key	96 answers
06	Full Worked Solutions	96 solutions
07	Teacher / Parent Use Guide	included
08	Terms of Use & License	included

Topic focus
Across 96 tasks this topic asks for exact function value or justified information status.
8 PDFs and a README; 64 buyer pages.

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Name: _____ Date: _____ Class: _____

Answer each question and record the matching bank letter. Give exact values. A value without its unit is not a complete answer.

Use the rule $B(x) = 2x - 3 + 1$. Its domain is all real numbers. Evaluate $B(-1)$ in the correct operation order. Bank label: _____	Interpret exact numerical equality to find $L(0.5)$. <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <th style="text-align: left;">Input</th> <th style="text-align: left;">Output</th> </tr> <tr> <td>$\frac{1}{2}$</td> <td>6</td> </tr> <tr> <td>2</td> <td>9</td> </tr> </table> Bank label: _____	Input	Output	$\frac{1}{2}$	6	2	9						
Input	Output												
$\frac{1}{2}$	6												
2	9												
Find $p(4)$ even though an output repeats. <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <th style="text-align: left;">Input</th> <th style="text-align: left;">Output</th> </tr> <tr> <td>1</td> <td>5</td> </tr> <tr> <td>4</td> <td>5</td> </tr> <tr> <td>7</td> <td>2</td> </tr> </table> Bank label: _____	Input	Output	1	5	4	5	7	2	Use the rule $h(x) = \frac{x^2}{2}$. Its domain is all real numbers. Evaluate $h(3) - 2h(1)$. Compute the exact combination of rule outputs. Bank label: _____				
Input	Output												
1	5												
4	5												
7	2												
Use the rule $W(x) = x + 2$. Its domain is all real numbers. Compute $W(2 - 7)$. Bank label: _____	Ignore the record number and evaluate $N(3)$. <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <tr> <th style="text-align: left;">record</th> <th style="text-align: left;">input</th> <th style="text-align: left;">output</th> </tr> <tr> <td>101</td> <td>-2</td> <td>4</td> </tr> <tr> <td>205</td> <td>3</td> <td>8</td> </tr> <tr> <td>310</td> <td>7</td> <td>1</td> </tr> </table> Bank label: _____	record	input	output	101	-2	4	205	3	8	310	7	1
record	input	output											
101	-2	4											
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Answer each question and show your reasoning in the workspace. Give exact values rather than decimals unless the question supplies a decimal. A value without its unit is not a complete answer.

Use the rule $W(x) = x - 2$. Its domain is all real numbers. Evaluate $\frac{W(5)}{W(1)+W(3)}$. Evaluate the denominator combination before dividing. 	Use the rule $g(x) = (x + 1)^2 - 4$. Its domain is all real numbers. Evaluate $\frac{g(-3)+g(1)}{g(0)-g(-1)}$. Evaluate all four represented outputs before simplifying the ratio. 										
$V(t)$ is volume in liters t hours after opening. The allowed domain is $0 \leq t < 2$. The requested input is 120 minutes. Convert the time and use endpoint inclusion to determine the volume value. 	Consolidate the duplicate record and state $K(5)$. <table border="1" data-bbox="824 957 1468 1117"> <thead> <tr> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>8</td> </tr> <tr> <td>1</td> <td>3</td> </tr> <tr> <td>5</td> <td>8</td> </tr> <tr> <td>-2</td> <td>4</td> </tr> </tbody> </table> 	Input	Output	5	8	1	3	5	8	-2	4
Input	Output										
5	8										
1	3										
5	8										
-2	4										
Use the rule $o(x) = \frac{1}{x+1}$. Its domain is all real x except -1. Evaluate $o(-\frac{3}{3})$. Compute the quotient argument and check the excluded input. 	The declared domain is whole numbers. Is more table information needed to determine $r(1.5)$? 										

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Begin at START. Answer the card, then find the matching final answer at the top of another card. Use the recording sheet for your reasoning. Visit each card once and continue to FINISH.

Incoming: $P(-3) = 97$ kilopascals three days before inspection. $z(t)$ is vertical position in meters above a platform t seconds after launch. Use $z(t) = 6t - 20$. The allowed domain is $0 \leq t \leq 5$. The requested input is 2 seconds. Evaluate and interpret a negative position output. Your response: _____	Incoming: $z(2) = -8$ meters, meaning 8 meters below the platform. $L(t)$ is sea-level change in centimeters relative to a fixed reference level, t hours after 6a.m. Use $L(t) = 0.5t - 5$. The allowed domain is $0 \leq t \leq 12$. The requested input is 2p.m. Resolve the clock reference, evaluate, and interpret the level reference. Your response: _____
Incoming: $E(1.5) = 2.9$ kilowatt-hours after 90 minutes. $P(d)$ is pressure in kilopascals d days relative to an inspection. Use $P(d) = 100 + d$. The allowed domain is $-5 \leq d \leq 5$. The requested input is 3 days before inspection. Translate the relative date to an input and evaluate pressure. Your response: _____	Incoming: $h(2) = -5$. $D(t)$ is distance in miles after t hours. Use $D(t) = 55t$. The allowed domain is $t \geq 0$. Use the model to find the traveled distance after 2.5 hours. Your response: _____
Incoming: $A(2.5) = 6.25$ square meters. $P(n)$ is price in dollars for n tickets. Use $P(n) = 7n$. The allowed domain is whole numbers $n \geq 0$. The requested input is 5 tickets. Evaluate the ticket price for five tickets. Your response: _____	Incoming: $Y(32) = 4640$ yen. Use the rule $m(x) = 0.5(3x - 2)^2$. Its domain is all real numbers. Evaluate $m(2)$ with the inner linear value first. Your response: _____

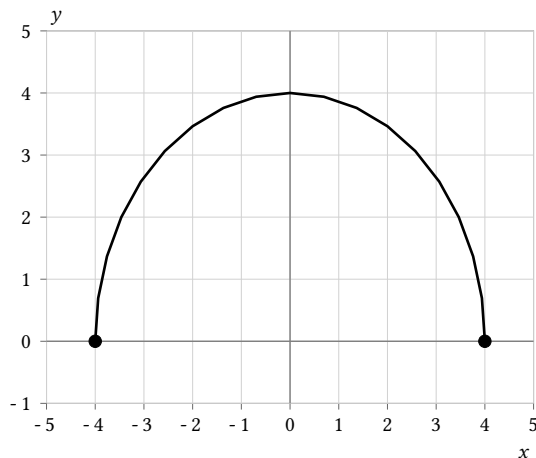
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Evaluate the supplied statement or method. Say whether it is correct, repair it if it is not, and verify the result exactly. Not every prompt contains an error.

Choose an efficient method, explain why it fits the given representation, and then complete the task exactly. Read $Q(0)$ from the specified upper half-circle.



Complete the task, then compare the direct table approach with an equivalent check. Explain why both support the same conclusion. Columns are displayed output first. Find $G(4)$.

output	input
8	1
3	4
-2	6

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Full Worked Solutions - excerpt

Worked example

Problem. Use the rule $B(x) = |2x - 3| + 1$. Its domain is all real numbers. Evaluate $B(-1)$ in the correct operation order.

Answer. $B(-1) = 6$.

Explanation and check.

$$2(-1) - 3 = -5$$

so

$$|-5| + 1 = 6$$

Worked example

Problem. Interpret exact numerical equality to find $L(0.5)$.

Input	Output
$\frac{1}{2}$	6
2	9

Answer. $L(0.5) = 6$.

Explanation and check.

Decimal 0.5 equals the listed input $\frac{1}{2}$.