

A matrix for building, self-assessing and peer reviewing local assessment:

<p>Task Difficulty (Complexity, Autonomy, Context)</p> <p>Math Examples</p> <p>Cognitive Demand (Depth and breadth of thinking)</p>	<p>1. <i>Item</i>: no task analysis, strategy, or real performance required: a selected-response or fill-in test item.</p> <p><i>E.g. A multiple-choice item requiring one-step solution.</i></p>	<p>2. <i>Simple script</i>: a routine, constructed-response task involving a familiar script, recipe, or process.</p> <p>(more like the “drill” than the “game”)</p> <p><i>E.g. A familiar and simplified constructed-response problem of 2-3 steps.</i></p>	<p>3. <i>Complex performance</i>: A non-routine, complex task in a realistic context, requiring task analysis, strategy, and autonomy in the use of one’s repertoire, self-assessment, and self-adjustment.</p> <p>(more like the “game” than the “drill”)</p> <p><i>E.g. A complex performance task in which minimal guidance is given about how to approach the task, and in which context matters.</i></p>
<p>A. <i>Recall</i>: Accurate memory of familiar content. E.g. <i>Recall a formula or a definition</i></p>	<p>Qs: 1, 5 – 7%</p>		<p><i>unlikely</i></p>
<p>B. <i>Basic</i>: requires familiar, brief, and uncomplicated thinking, signaled by the way the challenge is scaffolded and worded. E.g. <i>Infer which expression is correct from the options (but the correct choice is obvious and only a very simple ‘plug and chug’ is needed).</i></p>	<p>Qs: 3, 4, 6, 7, 8, 9 – 22%</p>	<p>Qs: 2, 10, 14, 20, 21, 22, 27 26%</p>	
<p>C. <i>Understanding</i>: requires higher-order thought about content, strategy, and sequence. However, the challenge is scaffolded so that the thinking required should seem straightforward – i.e. ‘near transfer’ of thought. E.g. <i>A slightly different problem or look than what was done in class: Analyze which math applies, which expression is correct, and perform some testing to determine & check the answer.</i></p>		<p>Qs: 11, 12, 13, 15, 16, 17, 18, 19, 23, 24, 25 41%</p>	
<p>D. <i>Complex understanding</i>: the challenge to thinking is significant: minimal or no scaffold is provided, so it is unclear which content and processes should be used, and what to make of ideas and facts that may seem to conflict or to be insufficient. Insight, analysis, and multiple steps of reasoning are needed – i.e. ‘far transfer’ of thought. E.g. <i>A challenging word problem in which the problem seems initially unsolvable from what is given, and a substantial amount of thought and logic are demanded to find a solution path and solve it</i></p>		<p>Q: 26 3%</p>	

Place the number of total questions and % corresponding to each cell. E.g. There are 8 questions coded A.1 = 23%, 4 questions coded A.2. = 16%, etc. NOTE: coding the cognitive demand and task complexity often requires background knowledge. It requires you to know whether or not the students had studied and gone over with the teacher the questions/tasks on the assessment (or ones just like them). Just reading the assessment by itself might cause a rater other than the teacher to set the level of demand as high when in fact it is a recall question (i.e. the exact question was covered in class).

Algebra 1

CHAPTER 5 TEST

Identify the choice that best completes the statement or answers the question. Please record your answer with a capital letter in the space provided .

- _____ 1) A rational number can _____ be expressed as a quotient of integers.
 A. always B. sometimes C. never

- _____ 2) Simplify $\sqrt{\frac{100}{36}}$.
 A. $\frac{50}{3}$ B. $\frac{5}{18}$ C. $\frac{18}{5}$ D. $\frac{5}{3}$

Name the property the equation illustrates.

- _____ 3) $(ab)3 = a(b3)$
 A. Inverse Property of Multiplication C. Associative Property of Multiplication
 B. Associative Property of Addition D. Commutative Property of Multiplication

Name the property of real numbers illustrated by the equation.

- _____ 4) $-2(x + 11) = -2x - 22$
 A. Associative Property of Multiplication C. Commutative Property of Addition
 B. Distributive Property D. Associative Property of Addition

- _____ 5) $-6 + 6 = 0$
 A. Identity Property of Multiplication C. Associative Property of Addition
 B. Inverse Property of Multiplication D. Inverse Property of Addition

- _____ 6) The cross products of a proportion are _____ equal.
 A. always B. sometimes C. never

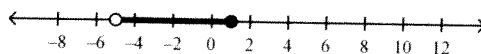
- _____ 7) all real numbers at least -5 and at most 1
 A. $-5 \geq x \geq 1$



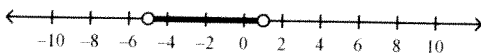
- B. $-5 \leq x \leq 1$



- C. $-5 \geq x \geq 1$



- D. $-5 < x < 1$



Name: _____

ID: A

_____ 8) A relation is _____ a function.

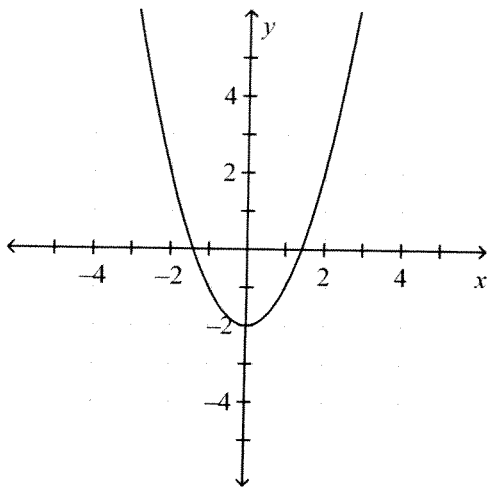
A. always

B. sometimes

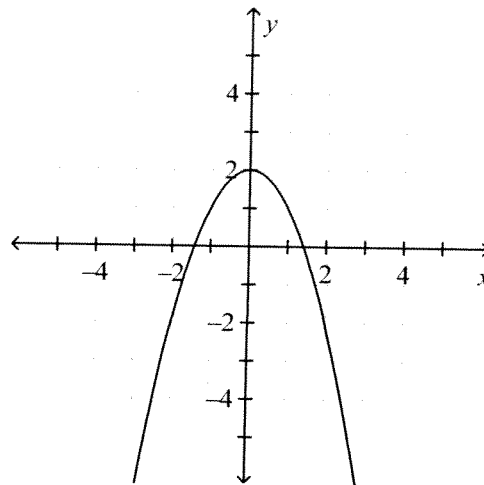
C. never

_____ 9) $y = x^2 - 2$

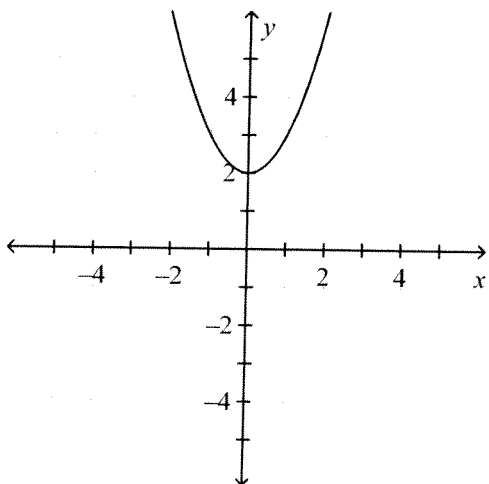
A.



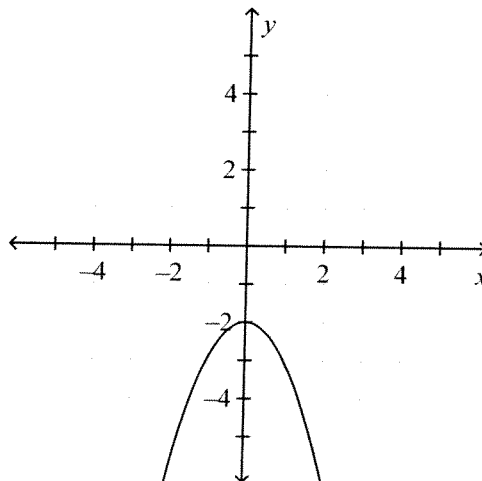
C.



B.



D.



_____ 10) Evaluate $f(x) = \frac{1}{3}x$ for $x = 4$.

A. $1\frac{1}{3}$

B. $\frac{1}{12}$

C. $\frac{3}{4}$

D. -12

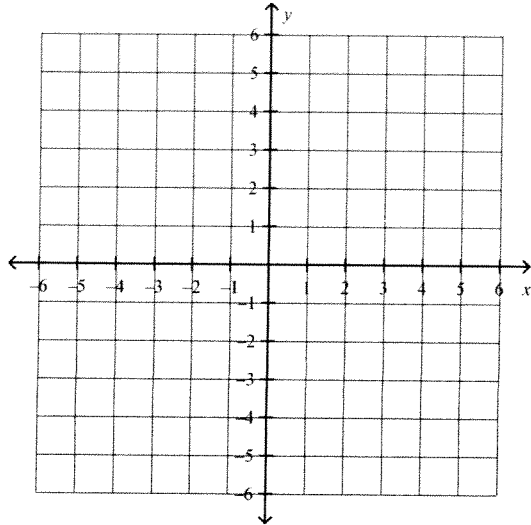
Name: _____

ID: A

For the remainder of the test, **SHOW ALL OF YOUR WORK** if you want to receive credit.

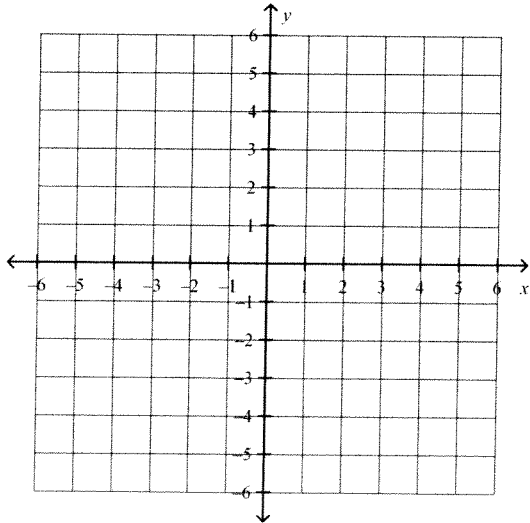
11) $y = -2x + 3$

Make a table of values and then graph the function



12) $y = |3x| - 1$

Make a table of values and then graph the function



13)
$$\begin{bmatrix} 1 & 2 & 0 \\ -5 & 9 & 9 \end{bmatrix} - \begin{bmatrix} -1 & 3 & -6 \\ 5 & 4 & 7 \end{bmatrix} =$$

14) Determine if the data is discrete or continuous. **Explain your reasoning.**

A movie store sells DVDs for \$15 each. The function $C(d) = 15d$ relates the total cost of movies to the number purchased d .

Name: _____

ID: A

15) What's the rule for this table? _____

x	$f(x)$
-2	-6
-1	-3
0	0
1	3
2	6

16) $f(x) =$ _____ $f(-8) =$ _____

x	$f(x)$
3	7
4	8
5	9
6	10

17) Find the range of $f(x) = -3x - 2$ for the domain $\{-2, 1, 5, 7\}$. Show your work. { _____ }

18) Suppose $f(x) = 4x - 2$ and $g(x) = -2x + 1$. Find the value of $\frac{f(4)}{g(1)}$. _____

19) Given the set of points $[(-8, -6)(-5, 2)(-8, 1)(7, 3)]$.

Draw a mapping diagram

Domain= _____

Range= _____

Explain how you tell if this is a function

Name: _____

ID: A

20) A taxi company charges passengers \$2.00 for a ride, no matter how long the ride is, plus an additional \$0.20 for each mile traveled. Let C = cost and m =miles driven.

a. independent variable _____ b. dependent variable _____

c. equation representing the situation _____

a. What is the charge for a 1.4-mile ride? _____ b. What is the charge for a 27-mile ride? _____

c. What **set of numbers** would best represent the domain _____

21)

Hour Worked	Pay
2	\$15.00
4	\$30.00
6	\$45.00
8	\$60.00

State the rule _____

How much would you earn if you worked 10 hrs and 15 minutes? _____

Hint (change 15 minutes into hours)

22) The french club is holding a car wash fundraiser. They are going to charge \$12 per car, and expect between 60 and 80 cars. Identify the independent variable _____

dependent variable _____

find a reasonable domain _____ and

range _____

Name: _____

ID: A

23) Solve and graph

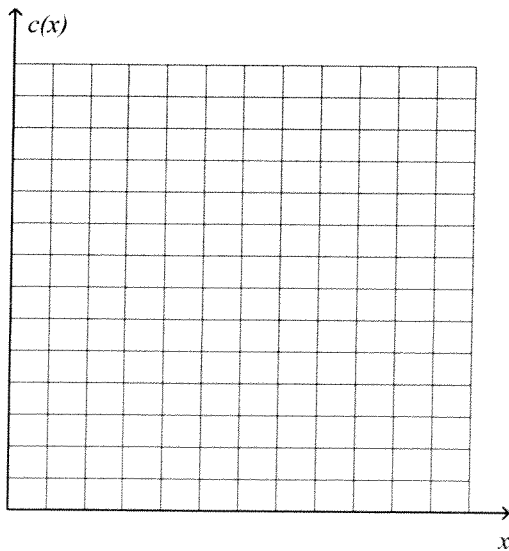
a. $|3x - 7| \geq 10$

b. $|2x + 5| < 9$

24) Elaine is in the business of repairing home computers. She charges a base fee of \$45 for each visit and \$25 per hour for her labor. The price she charges depends on how many hours she works. Write a function rule to model this data.

Use the function rule to make a table of values and a graph. (Put any scale you want on the 'Y' axis)

x	$c(x)$
0	
1	
2	
3	



Name: _____

ID: A

25) A student scored 80 and 93 on her first two quizzes. Write and solve a **compound inequality** to find the possible values for a third quiz score that would give her an average between 86 and 90.

26) A supertanker left port traveling north at an average speed of 10 knots (nautical miles). Two hours later a cruise ship leaves the same port, heading south at an average speed of 18 knots. How many hours has the cruise ship traveled when the two ships are 209 nautical miles apart? _____ make a chart and draw a picture (if necessary)

27) An employee receives a weekly salary of \$340 and a 6% commission on all sales.

a. independent variable _____

dependent variable _____

b. Write a rule to describe the function $f(d)$ that gives weekly earnings in terms of d dollars in sales. _____

c. Find the employee's earnings for a week with \$660 total sales. _____

d. What were the employee's total sales for a week in which her earnings were \$1300? _____