

CA Standards Check 2

- 2a. Some 1% milk is mixed with some 2% milk to produce 10 gallons of 1.3% milk. How much 1% milk and how much 2% milk were mixed?
- 2b. Eight liters of an 8% bleach solution is mixed with 2 liters of another bleach solution to produce 20 liters of a 5% bleach solution. What percent bleach was the second solution?

See hand-written key for work and answers



- 1 Buck can scrub the kitchen floor in 40 minutes, while Ira can scrub the kitchen floor in 1 hour. How long would it take Buck and Ira to scrub the kitchen floor if they work together?
- A 15 minutes **C 24 minutes**
 B 20 minutes D Half an hour
- 2 When a group of people consisting of 52% males is joined with another group of people consisting of 48% males, the result is a group of 15,000 people consisting of 48.8% males. How many people were in the two groups that were joined?
- A 3000 people in the group with 52% males and 12,000 people in the group with 48% males**
 B 12,000 people in the group with 52% males and 3000 people in the group with 48% males
 C 5000 people in the group with 52% males and 10,000 people in the group with 48% males
 D 10,000 people in the group with 52% males and 5000 people in the group with 48% males
- 3 Some water that is 96% pure is mixed with 10 gallons of some water that is 99% pure to produce water that is 96.5% pure. How many total gallons of water were mixed together?
- A 30 C 50
 B 40 **D 60**
- 4 Cars can leave a parking lot through two exits. If cars leave only through the first exit, the full parking lot takes 1 hour to empty, and if cars leave only through the second exit, the full parking lot takes 1.5 hours to empty. How long would it take the full parking lot to empty if cars left through both exits at the same time?
- A 12 minutes **C 36 minutes**
 B 24 minutes D 48 minutes
- 5 Bruno's Pastry Factory has two jelly injectors to fill Bruno's jelly donuts. The first jelly injector can fill one of Bruno's jelly donuts in 0.6 seconds, while the second jelly injector can fill one of Bruno's jelly donuts in 0.9 seconds. If both jelly injectors were being used at the same time to fill one of Bruno's jelly donuts, how many seconds would it take to fill the jelly donut?
- A 0.34 C 0.38
B 0.36 D 0.4

(Key)

Standards Review - Lesson 16

C 1)

$$\frac{1}{40} \cdot 120 + \frac{1}{60} \cdot 120 = 1 \cdot 120$$

$$3x + 2x = 120$$

$$\frac{5x}{5} = \frac{120}{5}$$

$$x = 24 \text{ min.}$$

A 2)

	%	Amount	TOTALS
Group 1	.52	x	.52x
Group 2	.48	(15,000 - x)	(7,200 - .48x)
Mixed Group	.488	15,000	= 7,320

$$.52x + (7,200 - .48x) = 7,320$$

$$\begin{array}{r} .4x + 7200 = 7320 \\ -7200 \quad -7200 \\ \hline \end{array}$$

$$\frac{.4x}{.4} = \frac{120}{.4}$$

$$x = 3,000$$

Standards Review - Lesson 16

[D] 3)

	Pure [%] water	Amount	
96%	.96	x	.96x
99%	.99	10	9.9
96.5%	.965	(x+10)	.965x + 9.65

$$.96x + 9.9 = .965x + 9.65$$

$$-9.65 \qquad \qquad -9.65$$

$$.96x + .25 = .965x$$

$$-.96x \qquad \qquad - .960x$$

$$.25 = .005x$$

$$.005 \qquad \qquad .005$$

$$50 = x \qquad 60 = \text{Total}$$

[C] 4) $\frac{1}{60} \cdot 180 + \frac{1}{90} \cdot 180 = 1 \cdot 180$

$$3x + 2x = 180$$

$$\frac{5x}{5} = \frac{180}{5}$$

$$x = 36$$

Standards Review - Lesson 16

$$\boxed{B} \quad 5) \quad \frac{1}{.6} x^{1.8} + \frac{1}{.9} x^{1.8} = 1^{1.8}$$

$$3x + 2x = 1.8$$

$$5x = 1.8$$

$$x = .36$$

Standards Review - Lesson 17

1) B 2.) A 3) B 4) D

Standards Review - Lesson 18

1) D 2.) D 3.) C 4.) A

Standards Review - Lesson 19

1) B 2.) C 3) B *4.) A and C

5) B 6.) A

1 Janice starts the week with \$4.00. Each day she does her chores, her mother gives her \$0.50. Which table best represents a , the total amount of money Janice has after d days of doing her chores?

A

d	a
0	\$4.50
1	\$5.00
2	\$5.50
3	\$6.00

B

d	a
0	\$4.00
1	\$4.50
2	\$5.00
3	\$5.50

starts +.50 +.50 +.50

C

d	a
0	\$0
1	\$0.50
2	\$1.00
3	\$1.50

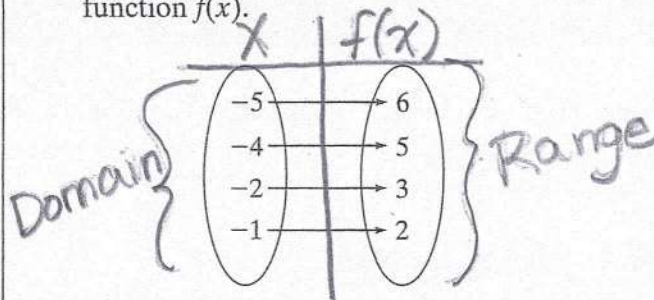
D

d	a
0	\$4.00
1	\$4.50
2	\$5.50
3	\$6.00

2 Which of the following is a correct representation of the function "y is five more than twice x"?

- A $y = 2x + 5$
- B $y = 5x + 2$
- C $y = x(2 + 5)$
- D $y = 5x + 2x$

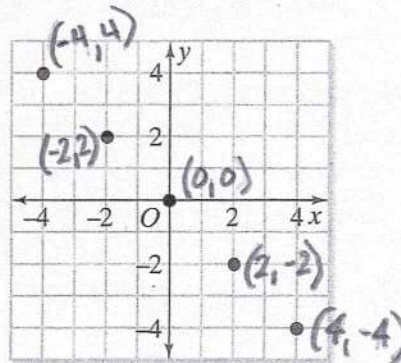
3 The mapping diagram represents a function $f(x)$.



Which of the following is NOT another correct way to represent $f(x)$?

- yes A $f(x) = \{(-5, 6), (-4, 5), (-2, 3), (-1, 2)\}$
- No B x is a negative integer greater than -6 and $y = -x + 1$.
- yes C $y = -x + 1$ and the range is $\{6, 5, 3, 2\}$.
- yes D The domain is $\{-5, -4, -2, -1\}$ and $y = -x + 1$.

4 The function $f(x)$ is graphed below.

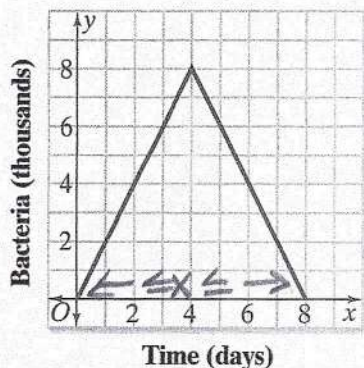


Which of the following is another correct representation of $f(x)$?

- A $y = x$ and the range is $\{4, 2, 0, -2, -4\}$.
- B x is every integer between -5 and 5 , and $y = -x$.
- C $f(x) = \{(-4, -4), (-2, -2), (0, 0), (2, 2), (4, 4)\}$
- D The domain is $\{-4, -2, 0, 2, 4\}$ and the range is $\{4, 2, 0, -2, -4\}$.

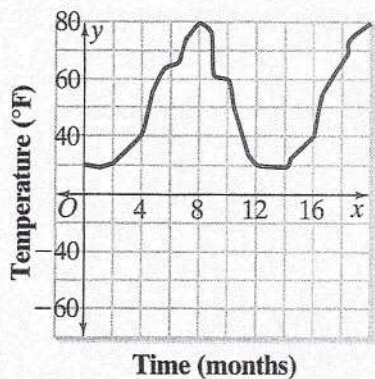


- 1 Find the domain and range of the function graphed below.



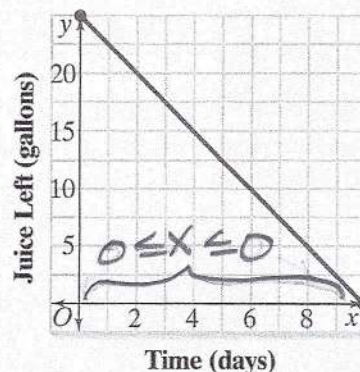
- A Domain: $0 \leq x \leq 4$; Range: $0 \leq y \leq 4$
 B Domain: $0 \leq x \leq 8$; Range: $0 \leq y \leq 4$
 C Domain: $0 \leq x \leq 4$; Range: $0 \leq y \leq 8$
 D Domain: $0 \leq x \leq 8$; Range: $0 \leq y \leq 8$

- 2 The graph below shows the temperature recorded at a weather station during a period of several months. Which inequality best approximates the range of the function?



- A $0 \leq x \leq 20$
 B $0 \leq y \leq 20$
 C $20 \leq x \leq 80$
 D $20 \leq y \leq 80$

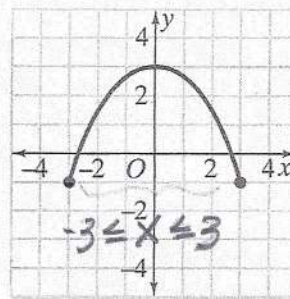
- 3 Ms. Drazi bought 25 gallons of cranberry juice for the juice machine at her office. The graph below shows how much juice was left over time.



What is the domain of this function?

- A $0 < x < 10$
 B $0 < y < 10$
 C $0 \leq x \leq 10$
 D $0 \leq y \leq 10$

- 4 Determine the domain and range of the function graphed below.



- A Domain: $-3 \leq x \leq 3$; Range: $-1 \leq y \leq 3$
 B Domain: $-3 \leq x \leq 3$; Range: $0 \leq y \leq 3$
 C Domain: $0 \leq x \leq 3$; Range: $-1 \leq y \leq 3$
 D Domain: $-1 \leq x \leq 3$; Range: $-3 \leq y \leq 3$

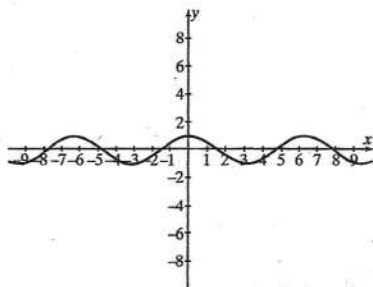
(Key)

Lesson 19

1 Which of the relations is a function?

- ~~NA~~ (20, -2), (5, -1), (5, 1), (20, 2) *X's cant repeat*
- B** (-2, 20), (-1, 5), (1, 5), (2, 20) *cant repeat*
- ~~NC~~ (-6, -8), (6, -8), (-6, 8), (6, 8)
- ~~ND~~ (19, -9), (36, 8), (19, 9), (0, 10)

2 Based on the vertical line test, is the relation graphed a function?



- ~~A~~ No, because any vertical line passes through the graph of the relation only once
- ~~B~~ No, because at least 1 vertical line passes through the graph of the relation more than once
- C** Yes, because any vertical line passes through the graph of the relation only once
- ~~D~~ Yes, because at least 1 vertical line passes through the graph of the relation more than once

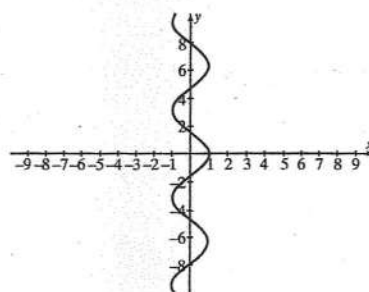
3 Which of the following relations is a function?

- ~~NA~~ (0, 1), (0, 9), (2, 33), (3, 73)
- B** (0, 1), (1, -7), (2, -31), (3, -71)
- ~~NC~~ (-11, 15), (-9, 10), (9, 10), (-11, 25)
- ~~ND~~ (15, -11), (10, -9), (10, 9), (15, 11)

4 Which of the following relations is a function?

- A** (-12, 9), (-9, 12), (9, 12), (12, 9) *X's cant repeat*
- ~~NB~~ (-9, -12), (-9, 12), (9, -12), (9, 12) *-9 repeats*
- C** (-12, 9), (-9, 9), (9, 9), (12, 9)
- ~~ND~~ (12, 12), (-9, 12), (9, 12), (12, 12) *12 repeats*

5 Based on the vertical line test, is the relation graphed a function?



- ~~A~~ No, because any vertical line passes through the graph of the relation only once
- B** No, because at least 1 vertical line passes through the graph of the relation more than once
- ~~C~~ Yes, because any vertical line passes through the graph of the relation only once
- ~~D~~ Yes, because at least 1 vertical line passes through the graph of the relation more than once

6 Which of the following relations is a function?

- A** (-1, 2), (0, 1), (1, 2), (2, 17)
- ~~NB~~ (2, -1), (1, 0), (2, 1), (17, 2)
- ~~NC~~ (0, -1), (-1, 0), (0, 1), (15, 2)
- ~~ND~~ (5, -1), (1, 0), (5, 1), (17, 2)



1 Which shows the use of the quadratic formula for $y = x^2 + x + 1$?
 $\begin{matrix} a & b & c \end{matrix}$

A $x = \frac{1 \pm \sqrt{1 - 4(1)(1)}}{1}$

B $x = \frac{1 \pm \sqrt{1 - 4(1)(1)}}{2}$

C $x = \frac{-1 \pm \sqrt{1 - 4(1)(1)}}{1}$

D $x = \frac{-1 \pm \sqrt{1 - 4(1)(1)}}{2}$

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

2 What do you do to the standard form of a quadratic function to change the coefficient of x^2 to 1?

A Multiply both sides of the equation by -1 .

B Divide both sides of the equation by a .

C Multiply both sides of the equation by a .

D The coefficient is already 1.

invisible \rightarrow $x^2 + bx + c = 0$
 "1"

3 What does $\sqrt{b^2 - 4ac}$ equal when using the quadratic formula to solve the quadratic function $y = -2x^2 - 5x + 7$?

A $\sqrt{31}$

B 9

C $\sqrt{-31}$

D $\sqrt{-81}$

$\begin{matrix} a & b & c \end{matrix}$

$\sqrt{(-5)^2 - 4(-2)(7)}$

$\sqrt{25 + 56}$

$\sqrt{81} = 9$

4 What term is added to both sides of the standard form when completing the square?

A $(\frac{b}{a})^2$

B $\frac{b^2}{2a}$ *had to ÷ by "a"

C $\frac{b}{2a}$ *then ÷ by 2 and square.

D $(\frac{b}{2a})^2$ ✓

ex:
 $4x^2 + 8x + 4 = 0$

5 Which shows the use of the quadratic formula for $y = -6x^2 - 2x + 10$?

A $x = \frac{6 \pm \sqrt{6 - 4(-2)(10)}}{-2}$

B $x = \frac{-2 \pm \sqrt{4 - 4(-6)(10)}}{12}$

C $x = \frac{-(-2) \pm \sqrt{4 - 4(-6)(10)}}{-12}$ $2(-b)$

D $x = \frac{6 \pm \sqrt{36 - 4(-2)(10)}}{-4}$

6 What is the denominator when using the quadratic formula to solve the quadratic function $y = 10x^2 - x + 4$?

A -20

B -2

C 8

D 20

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$2(10) = 20$