

1a Look at the radical.

$$-8\sqrt{726}$$

What is a rewritten form of the radical?

- A. $-88\sqrt{6}$
- B. -90.75
- C. $-986\sqrt{6}$
- D. $-2,904$

2a Look at the expression.

$$2\sqrt{8} \cdot \sqrt{20}$$

Which of these is equivalent to this expression?

- A. $2\sqrt{28}$
- B. 5
- C. $8\sqrt{10}$
- D. $32\sqrt{10}$

3a Which sum is rational?

- A. $\pi + 18$
- B. $\sqrt{25} + 1.75$
- C. $\sqrt{3} + 5.5$
- D. $\pi + \sqrt{2}$

4a Which product is irrational?

- A. $\sqrt{2} \cdot \sqrt{50}$
- B. $\sqrt{64} \cdot \sqrt{4}$
- C. $\sqrt{9} \cdot \sqrt{49}$
- D. $\sqrt{10} \cdot \sqrt{8}$

1b A rectangle has a length of 12 meters and a width of 400 centimeters. What is the perimeter, in cm, of the rectangle?

- A. 824 cm
- B. 1,600 cm
- C. 2,000 cm
- D. 3,200 cm

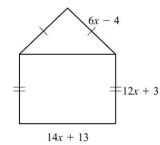
2b Jill swam 200 meters in 2 minutes 42 seconds. If each lap is 50 meters long, which is MOST LIKELY to be her time, in seconds, per lap?

- A. 32 seconds
- B. 40 seconds
- C. 48 seconds
- D. 60 seconds

1c What is the product of $7x - 4$ and $8x + 5$?

- A. $15x + 1$
- B. $30x + 2$
- C. $56x^2 + 3x - 20$
- D. $56x^2 - 3x + 20$

2c A model of a house is shown.



What is the perimeter, in units, of the model?

- A. $32x + 12$ units
- B. $46x + 25$ units
- C. $50x + 11$ units
- D. $64x + 24$ units

3C Which expression has the same value as the expression $(8x^2 + 2x - 6) - (5x^2 - 3x + 2)$?

- A. $3x^2 - x - 4$
- B. $3x^2 + 5x - 8$
- C. $13x^2 - x - 8$
- D. $13x^2 - 5x - 4$

1D This equation can be used to find h , the number of hours it will take Flo and Bryan to mow their lawn.

$$\frac{h}{3} + \frac{h}{6} = 1$$

How many hours will it take them to mow their lawn?

- A. 6 hours
- B. 3 hours
- C. 2 hours
- D. 1 hour

2d A ferry boat carries passengers back and forth between two communities on the Peachville River.

- It takes 30 minutes longer for the ferry to make the trip upstream than downstream.
- The ferry's average speed in still water is 15 miles per hour.
- The river's current is usually 5 miles per hour.

This equation can be used to determine how many miles apart the two communities are.

$$\frac{m}{15 - 5} = \frac{m}{15 + 5} + 0.5$$

What is m , the distance between the two communities?

- A. 0.5 mile
- B. 5 miles
- C. 10 miles
- D. 15 miles

3d For what values of x is the inequality $\frac{2}{3} + \frac{x}{3} > 1$ true?

- A. $x < 1$
- B. $x > 1$
- C. $x < 5$
- D. $x > 5$

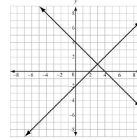
4d Look at the steps used when solving $3(x - 2) = 3$ for x .

$3(x - 2) = 3$	Write the original equation.
$3x - 6 = 3$	Use the Distributive Property.
$3x - 6 + 6 = 3 + 6$	Step 1
$3x = 9$	Step 2
$\frac{3x}{3} = \frac{9}{3}$	Step 3
$x = 3$	Step 4

Which step is the result of combining like terms?

- A. Step 1
- B. Step 2
- C. Step 3
- D. Step 4

18 Two lines are graphed on this coordinate plane.



Which point appears to be a solution of the equations of both lines?

- A. (0, -2)
- B. (0, 4)
- C. (2, 0)
- D. (3, 1)

28 Based on the tables, at what point do the lines $y = -x + 5$ and $y = 2x - 1$ intersect?

$y = -x + 5$		$y = 2x - 1$	
x	y	x	y
-1	6	-1	-3
0	5	0	-1
1	4	1	1
2	3	2	3
3	2	3	5

- A. (1, 1)
- B. (3, 5)
- C. (2, 3)
- D. (3, 2)

3e Look at the tables of values for two linear functions, $f(x)$ and $g(x)$.

x	$f(x)$	x	$g(x)$
-1	16	-1	-18
0	7	0	-14
1	4	1	-10
3	-2	3	-2
5	-8	5	6
7	-14	7	14

What is the solution to $f(x) = g(x)$?

4e Which ordered pair is a solution of $3y + 2 = 2x - 5$?

- A. $(-5, 2)$
- B. $(0, -5)$
- C. $(5, 1)$
- D. $(7, 5)$

5e A manager is comparing the cost of buying baseball caps from two different companies.

- Company X charges a \$50 fee plus \$7 per baseball cap.
- Company Y charges a \$30 fee plus \$9 per baseball cap.

For what number of baseball caps will the cost be the same at both companies?

- A. 10
- B. 20
- C. 40
- D. 100

6e A shop sells one-pound bags of peanuts for \$2 and three-pound bags of peanuts for \$5. If 9 bags are purchased for a total cost of \$36, how many three-pound bags were purchased?

- A. 3
- B. 6
- C. 9
- D. 18

7e Which graph represents a system of linear equations that has multiple common coordinate pairs?

