

eMPower™ **ME**

STUDENT  
SAMPLE ITEM BOOKLET

**Mathematics**

Grade 7





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# Sample Items

## Directions

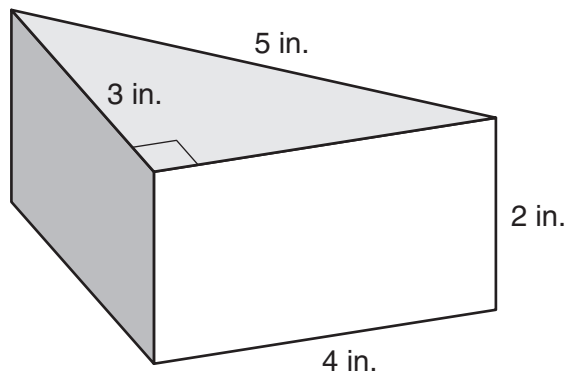
Read each question and choose the best answer.

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1. A store is having a going-out-of-business sale. Each item is on sale for half off  $m$ , the regular price. Which pair of equivalent expressions represents the sale price for any one item?

- A  $0.5m$  and  $m - \frac{1}{2}$
- B  $0.5m$  and  $m - \frac{1}{2}m$
- C  $m - 0.5$  and  $m - \frac{1}{2}$
- D  $m - 0.5$  and  $m - \frac{1}{2}m$

2. A piece of cheese is shaped like a right triangular prism.



The **entire** surface of the cheese will be covered with a wax coating. What is the surface area of the piece of cheese?

- A 20 sq. in.
- B 26 sq. in.
- C 32 sq. in.
- D 36 sq. in.

3. Kevin designed a spinner to use in a probability experiment. The tally chart shows the results for the first 20 spins.

**Results of 20 Spins**

Red	Blue	Green
<del>    </del>		<del>    </del>

In his experiment, Kevin will spin the arrow a total of 50 times. Based on the results in the tally chart, how many of the results will **most likely** be “Blue”?

- A 6
- B 8
- C 10
- D 12
4. A local dairy sells several different sizes of containers of milk. One of these is a 32-fluid-ounce bottle of chocolate milk.
- a. Write an equation that relates the cost,  $y$ , in dollars, of the bottle of chocolate milk to the price charged per fluid ounce,  $x$ .
- The cost of the bottle of chocolate milk is \$2.24.
- b. How much money does the dairy charge per fluid ounce of chocolate milk? Show your work or explain how you know.
- The dairy sells white milk in three bottle sizes:
- one gallon for \$3.09
  - half-gallon for \$2.09
  - one quart for \$1.54
- Someone buys a gallon, a half-gallon, and a quart of milk.
- c. What is the average price per fluid ounce paid by this consumer? Show your work or explain how you know.

Use the information below to answer questions 5 and 6.

Penelope won a contest. For her prize, she gets to reach into a bag of envelopes and take one without looking. Each envelope has a cash prize. The bag contains these envelopes:

- 100 envelopes with \$10
- 50 envelopes with \$50
- 25 envelopes with \$100
- 15 envelopes with \$200
- 10 envelopes with \$500
- 1 envelope with \$1,000

5. Penelope thinks she will more likely than not get an envelope containing \$10. Which statement **best** explains whether Penelope is correct?
- A No, the probability she will get an envelope with \$10 is less than 0.5.
- B Yes, the probability she will get an envelope with \$10 is less than 0.5.
- C No, the probability she will get an envelope with \$10 is greater than 0.5.
- D Yes, the probability she will get an envelope with \$10 is greater than 0.5.
6. Penelope claims this expression represents the probability she will get an envelope with at least \$500.

$$\frac{10}{100 + 50 + 25 + 15 + 1}$$

Is Penelope's claim true?

- A Yes, her claim is true.
- B No, she should add 1 to the numerator.
- C No, she should add 1 to the numerator and 10 to the denominator.
- D No, she should add 1 to the numerator and subtract 1 from the denominator.