

Fifth Grade Test

Name _____ Teacher _____ Date _____

5.MD.1 Convert among different-sized standard measurement units within a given measurement system.

1. How many minutes are in one and one-half hours?

- a. 60 minutes b. 120 minutes c. 30 minutes d. not here

2. How many quarts are in 1.5 gallons?

- a. 8 qt b. 4 qt c. 6 qt d. not here

3. How many milliliters are in a liter?

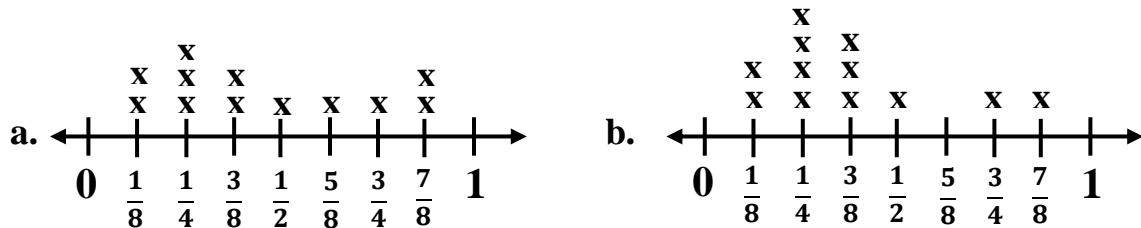
- a. 10 mL b. 1,000 mL c. 100 mL d. not here

5.MD.2 Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots.

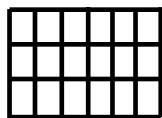
4. Chuck surveyed the students in his class and asked how far each lives from school. The results of the survey are as follows:

$\frac{1}{8}$ mi, $\frac{3}{4}$ mi, $\frac{1}{8}$ mi, $\frac{3}{8}$ mi, $\frac{1}{4}$ mi, $\frac{7}{8}$ mi, $\frac{1}{4}$ mi, $\frac{3}{8}$ mi, $\frac{1}{2}$ mi, $\frac{1}{4}$ mi, $\frac{3}{8}$ mi, and $\frac{1}{4}$ mi.

Which of the following line plots displays the data accurately?

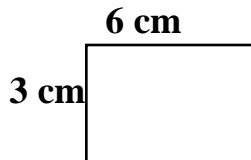


5.MD.3 (a) A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.



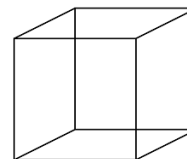
18 cm^2

a.



20 cm

b.



48 cm^3

c.

6. How many cubes are inside the rectangular prism?

a. 14

b. 12

c. 10

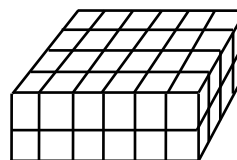


7. How many cubes are inside this rectangular prism?

a. 48

b. 32

c. answer not here



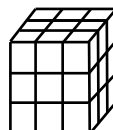
5.MD.3 (b) A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.

8. How many cubic units are inside this cube?

a. $(3 + 3) + 3 = 12$ cubic units

b. $(3 + 3) \times 3 = 18$ cubic units

c. $(3 \times 3) \times 3 = 27$ cubic units

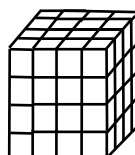


9. How many cubic units are inside this cube?

a. 16

b. 64

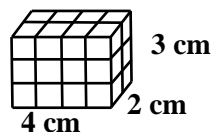
c. 48



5.MD.4 Measure volumes by counting unit cubes, using cubic cm, cubic in., cubic ft, and improvised units.

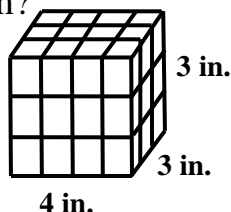
10. What is the volume of this rectangular prism?

- a. 24 cm^2 b. 24 cm^3 c. 24 cm



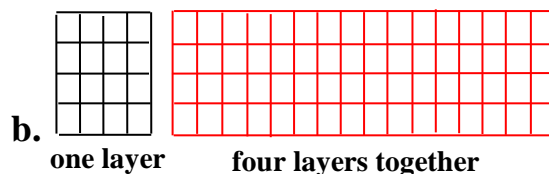
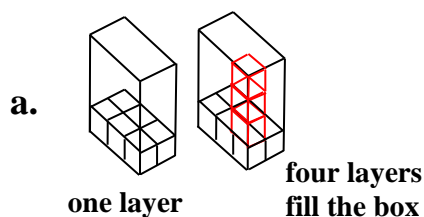
11. What is the volume of the rectangular prism?

- a. 10 in.^3 b. 36 in.^3 c. 18 in.^3



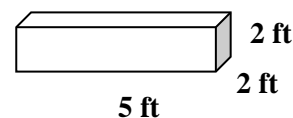
5.MD.5(a) Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.

12. Which picture below represents the relationship between area and volume?



5.MD.5(b) Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.

13. Which of the following computations uses the formula $V = b \times h$ for the volume of the following rectangular prism?



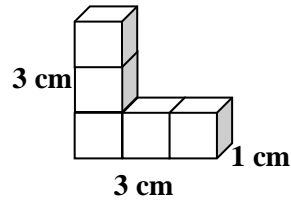
- a. $V = 10 \times 2 = 20 \text{ ft}^3$ b. $V = (5 \times 2) \times 4 = 40 \text{ ft}^3$

14. The Happy Hollow Club has a swimming pool measuring 40 feet long, 25 feet wide, and 8 feet deep. How much water does the swimming pool hold?

- a. $8,000 \text{ ft}^3$ b. $1,008 \text{ ft}^3$ c. $3,325 \text{ ft}^3$

5.MD.5(c) Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the overlapping parts, applying this technique to solve real word problems.

15. Find the volume of the figure below.



a. 7 cm^3

b. 10 cm^3

c. answer not here

**Answer Key for Fifth Grade Test
Measurement and Data**

Standard	Answer
5.MD.1	1. d
	2. c
	3. b
5.MD.2	4. b
5.MD.3(a)	5. c
	6. b
	7. a
5.MD.3(b)	8. c
	9. b
5.MD.4	10. b
	11. b
	12. a
5.MD.5(a)	13. a
	14. a
5.MD.5(c)	15. c