PACKETS

Name_____Class_____Date_____

Weekly Practice Packet #6:
Area and Volume

The weekly practice packet is due on _____.

Complete the problems in the packet throughout the week as you learn more about each skill or concept. It is important that you try your best and persevere when solving each problem or answering each question. **The weekly practice packet counts as a 10-point nightly practice grade.**

If you get stuck do the following:

1. Refer to your class notes, practice sheets, and warm-ups.
2. Take a break and try the problem or question again.
3. Attend Mrs. Brightman's extra help sessions.
4. Still having trouble? Write a statement stating why you are having difficulty on the problem or question.

PART I: VOCABULARY

Complete the two foldables for the vocabulary words listed below. The definitions for these words can be found in class notes. These words appear throughout the packet and the foldable will be most useful in becoming more familiar with their definitions.

Area	**Volume**	**Base**
unit cube	**cube**	**Rectangular prism**
Rectangle	**Square**	**Triangle**
Right Triangle	**Parallelogram**	
Trapezoid	**Right Trapezoid**	

**PART II: AREA (notes pages 12, 13, 14, 15)**

1. What does area describe?

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2. What units are used to measure area?

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3. What is the formula for calculating the area of a rectangle?


4. Describe why the area formula for a triangle is $\frac{1}{2} \times base \times height$.

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5. Find the area of the shaded figures below. Each square on the grid represents one square unit. *Convince me by creating a proof of your solution by using drawings, numbers, arrows, calculations, and/or other features that make your reasoning clear and convincing.*
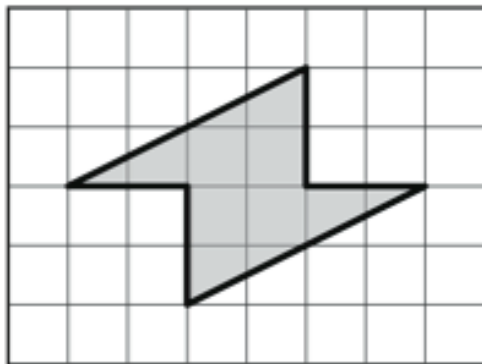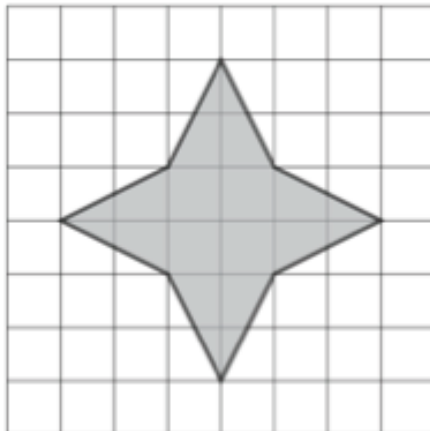
6. Find the area of the shaded figures below. Each square on the grid represents one square unit. *Convince me by creating a proof of your solution by using drawings, numbers, arrows, calculations, and/or other features that make your reasoning clear and convincing.*
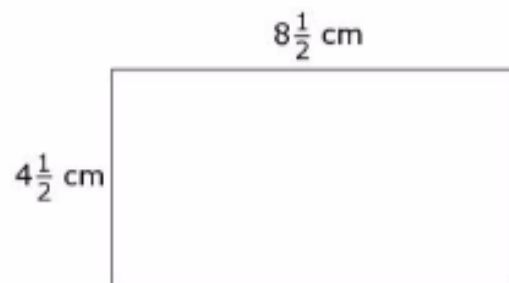
a.
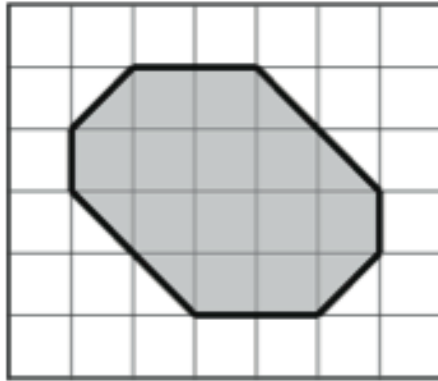
b.

7. Find the area of the figure below in square centimeters. *Convince me by creating a proof of your solution by using drawings, numbers, arrows, calculations, and/or other features that make your reasoning clear and convincing.*

$8\frac{1}{2}$ cm

$4\frac{1}{2}$ cm

8. Find the area of the figure below in square centimeters. _Convince me by creating a proof of your solution by using drawings, numbers, arrows, calculations, and/or other features that make your reasoning clear and convincing._
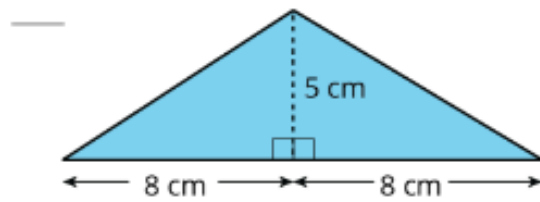
a.
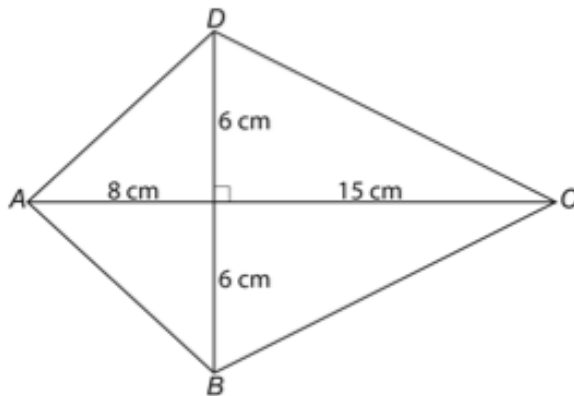
b.

9. A parking space is 10 ½ feet wide and 22 feet long. What is the area of the parking space?

10. Mrs. Brightman's classroom has an area of 330 square feet. Her rectangular classroom is 20 feet long. What is the width of the classroom?
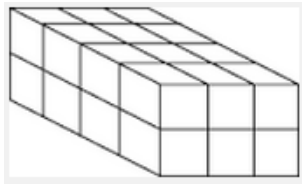
11. Describe a situation where you can apply area.
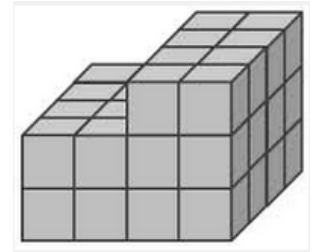
PART III: VOLUME (notes pages 16, 17, 18)

12. What is a unit cube?

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13. The figures below are filled with unit cubes. Determine the number of unit cubes in each figure.

a.

b.

- -

14. Is the figure below a cube? Explain why or why not.

2 in

0.7 in

4.2 in

- -
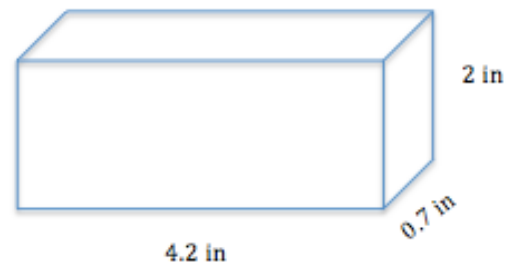
15. Explain why Volume = s^3 can be used to find the volume of a cube. Explain what s represents.

16. What does volume describe?

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17. Find the volume of the following cubes. Draw a picture of each cube in the space provided and label its dimensions.

   a. $1 - inch\ cube$

   What does it look like?   Volume:

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   b. *Cube with an edge length of* $5\ cm.$

   What does it look like?   Volume:

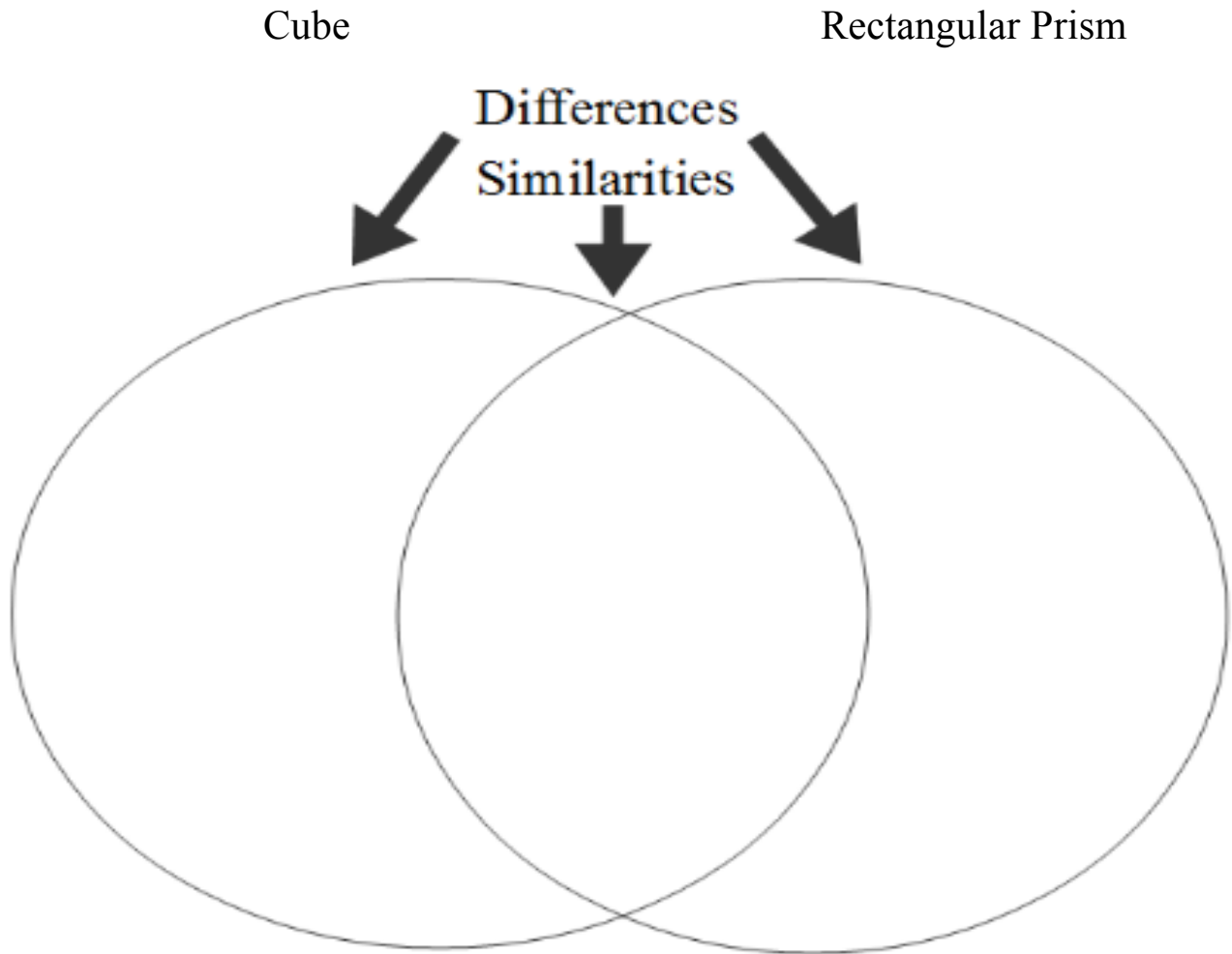
   c. *Cube with an edge length of* $\frac{2}{3}\ in.$

   What does it look like?   Volume:

18. Complete the diagram below by identifying the similarities and differences between a cube and a rectangular prism.

Cube   Rectangular Prism

Differences
Similarities

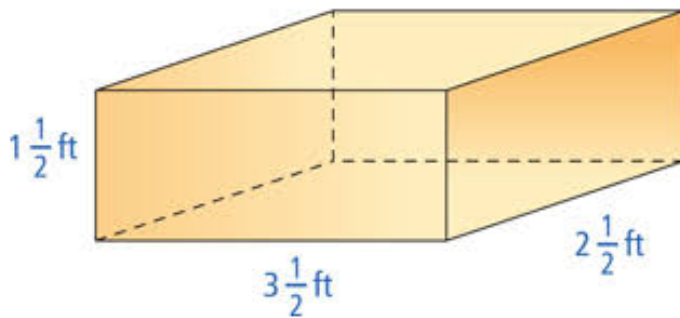19. What units are used to measure volume?

20. Write 2 formulas for calculating the volume of a rectangular prism.

    a. Formula One: _____

    b. Formula Two: _____

21. Describe what B in one of the volume formulas represents.

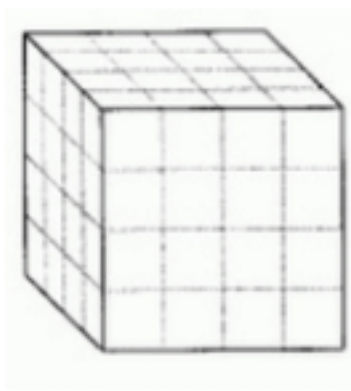22. Find the volume of the rectangular prism pictured below. Show all of your work in the space provided.

$1\frac{1}{2}$ ft

$3\frac{1}{2}$ ft

$2\frac{1}{2}$ ft

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23. How much soil can the dump truck pictured below hold? Show all of your work in the space provided.
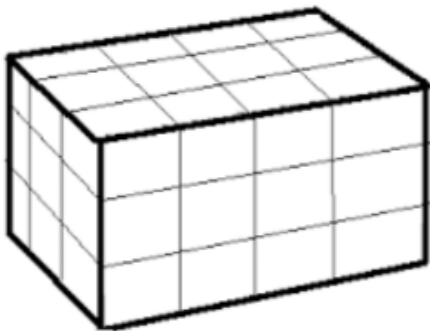
The truck is 4 ¾ ft high, 8 ft wide, and 17 ft long

24. The rectangular prism pictured below is filled with cubes that have an edge-length of 1-inch. Find the volume of the rectangular prism. Show all of your thinking below.

25. The rectangular prism pictured below is filled with cubes that have an edge-length of 3-cm. Find the volume of the rectangular prism. Show all of your thinking below.

26. The rectangular prism pictured below is filled with cubes that have an edge-length of ¼ -inch. Find the volume of the rectangular prism. Show all of your thinking below.