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UNIT 8 LESSON 7

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| AIM: | SWBAT solve area problems in real world contexts |

**THINK ABOUT IT!**

For each scenario below, identify the correct application (area, perimeter, or volume).

1. Fran is putting a fence around her garden and needs to figure out how many feet of fencing she needs
2. Alonso is painting his wall and needs to figure out how many square feet he will be painting
3. Shannon is filling her fish tank with water and needs to figure out the capacity of the tank
4. Chris is putting mulch over his entire yard and needs to know how many square feet of mulch he needs
5. Ayanna is putting a rug over her entire living room floor and needs to know the number of square feet she is covering

For all of the scenarios that you labeled with area, explain why you chose area.

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Key Point

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| Real world situations involving covering a shape require us to use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |

**Interaction with New Material**

*Ex. 1)* Bob the builder is constructing a lot with the shape and dimensions below.

50 ft.

30 ft.

25 ft.

27 ft.

27 ft.

Part A: Before starting to build, he ropes off the entire lot to ensure no one walks on it during construction. How many feet of rope does he need?

Part B: After roping off the lot, he covers the entire lot with a layer of cement. Cement costs $4 per bag and each bag covers 20 sq. ft. How much does he need to spend on cement?

**PARTNER PRACTICE**

CFS:

* Annotations: circle key starting information
* Model is drawn accurately and labeled
* Formula is written
* All calculations are shown
* Answer statement is BOXED

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| *Bachelor Level* |

1. A living room is getting new carpet and is in the shape of a parallelogram, pictured below.

20’

15’

12’

How much will it cost for new carpet if the entire floor is covered and each square foot of carpet costs $2?

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| *Master Level* |

1. Find the area of the deck around this pool. The deck is the white area in the diagram.



**INDEPENDENT PRACTICE**

CFS:

* Annotations: circle key starting information
* Model is drawn accurately and labeled
* Formula is written
* All calculations are shown
* Answer statement is BOXED

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| *Bachelor Level* |

1. Teissia is painting ¼ of the wall in her bedroom blue. The wall is shaped like a triangle with a base of 10 feet and a height of 12 feet. How many square feet of the entire wall will she paint blue?

What concept did you apply to solve problem 1? Why?

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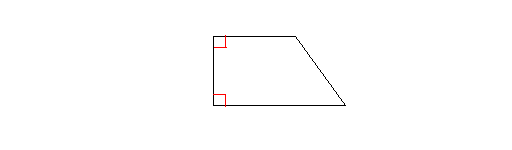
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| *Master Level* |

1. A student is working over the weekend painting fences to earn money. Each fence post is shaped like the one below and they all have the same dimensions.



10 feet

16 feet

12 feet

12 feet

4 ft.

3.5 ft.

2 ft.

On Saturday, he is painting the front of a fence with 20 identical fence posts. He needs to buy paint at the hardware store that charges $5.99 per gallon. If each gallon can be used to paint 25 square feet, how much will he spend on paint to paint the entire fence?

1. Mr. Jones is retiling his floor that is shaped like a trapezoid. The distance between the parallel bases is 10 m. The shorter base is half the length of the longer side, which is 12 m. If each tile is 1 meter by 1 meter in area, how many tiles will Mr. Jones need to retile his floor?

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| *PhD Level* |

4. Below is a drawing of a wall that is to be covered with either wallpaper or paint. It is 8 ft. high and 16 ft. long. The window, mirror, and fireplace will not be painted or papered. The window measures 18 in. by 14 ft. The fireplace is 5 ft. wide and 3 ft. high, while the mirror above the fireplace is 4 ft. by 2 ft. 

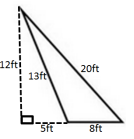
The wallpaper is sold in rolls that are 2 ft. wide and 21 ft. long, and cost $11.99 per roll. A gallon of paint covers $50 sq. ft. and is on sale for $5.99 per gallon. Paint needs to be applied on the wall twice so that there are two coats of paint. Is it more expensive to cover the wall with wall paper or paint? By how much?

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**U8L7 EXIT TICKET**

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| Self-assessment | I mastered the learning objective today. | I am almost there. | Need more practice and feedback. |
| Teacher feedback | You mastered the learning objective today. | You are almost there. | You need more practice and feedback. |

1. The Andersons are going on a long sailing trip during the summer. However, one of the sails on their sailboat ripped and they have to replace it. The sail is pictured below. If the sailboat sails are on sale for $2 per square foot, how much will the new sail cost?



CFS:

* Annotations: circle key starting information
* Model is drawn accurately and labeled
* Formula is written
* All calculations are shown
* Answer statement is BOXED

1. The Los Angeles Rams are putting down new turf on their football field. Turf costs $10.99 every square yard. If the length of the rectangular football field is 100 yards and the width is half of the length, how much will it cost to put turf on the entire field?

CFS:

* Annotations: circle key starting information
* Model is drawn accurately and labeled
* Formula is written
* All calculations are shown
* Answer statement is BOXED