

Warm-up: Pick up Buying Carpet blue worksheet from front; turn into table group and begin work.

Note: all intersections are to be assumed at integer coordinates.

Buying Carpet

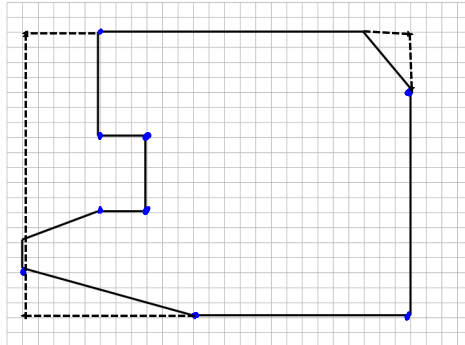
Task Card – Side A

Task: Zoraya and Yecenia want to get new carpet for the bottom floor of their house. After calling several different companies, they decided that Empire offered the best price at 2 dollars for every square foot of carpet. Help Zoraya and Yecenia determine the EXACT price of the carpeting they will need, given the floor plans of their house below. Each adjacent parallel line is 1 foot apart on the grid.

Your goal is to accurately solve the problem and provide a clear explanation of your solution.

Individual Accountability: Each group member must have the work completed on their own task card.

Group Accountability: One group member's written justification will be assessed to earn credit for the day.



What strategies did you use to determine the exact total square feet of floor space?

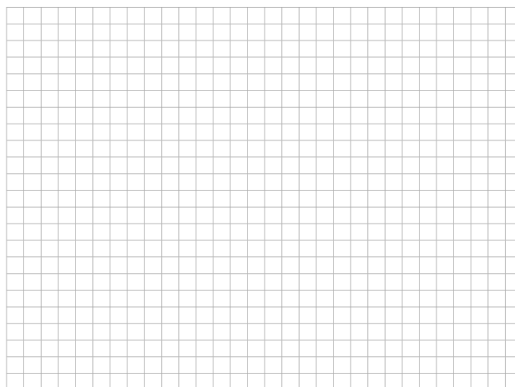
Homework!

Buying Carpet

Task Card – Side B

After helping Zoraya and Yecenia determine how much they will spend on carpet, your group figures that you can make an even cooler looking floor plan that will cost the SAME amount to carpet. With your group design a floor plan that would cost the same to carpet as Zoraya and Yecenia's. Be creative! You must have several lines that are not aligned with the grid.

Once your design is complete, write a brief description justifying how you know the number of square feet in your design matches that of Zoraya and Yecenia's.



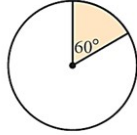
Write a brief description justifying how you know the number of square feet in your design matches that of Zoraya and Yecenia's.

ANSWERS

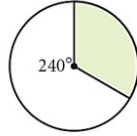
8.4 Exercises

In Exercises 1–8, find the area of the shaded region. The radius of each circle is r . If two circles are shown, r is the radius of the smaller circle and R is the radius of the larger circle.

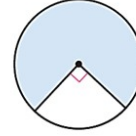
1. $r = 6$ cm 6π cm²



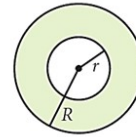
2. $r = 8$ cm $\frac{64\pi}{3}$ cm²



3. $r = 16$ cm 192π cm²



6. $R = 7$ cm 33π cm²
 $r = 4$ cm H

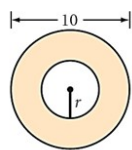


Lesson 8.4 Areas of Sectors

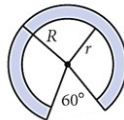
ANSWERS

8.4 Exercises

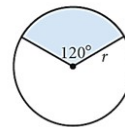
7. $r = 2$ cm 21π cm²



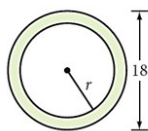
8. $R = 12$ cm $\frac{105\pi}{2}$ cm²
 $r = 9$ cm



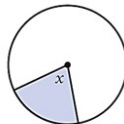
9. The shaded area is 12π cm².
Find r . 6 cm



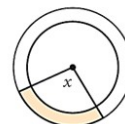
10. The shaded area is 32π cm².
Find r . 7 cm



11. The shaded area is 120π cm², and the radius is 24 cm. Find x . 75°



12. The shaded area is 10π cm².
The radius of the large circle is 10 cm, and the radius of the small circle is 8 cm. Find x . H 100°



ANSWERS

8.4 Exercises

14. Utopia Park has just installed a circular fountain 8 meters in diameter. The Park Committee wants to pave a 1.5-meter-wide path around the fountain. If paving costs \$10 per square meter, find the cost to the nearest dollar of the paved path around the fountain.

\$448



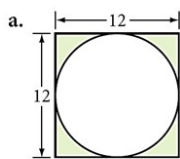
This circular fountain in Peshtera, Bulgaria, shares a center with the circular path around it. How many concentric circles do you see in the picture?

ANSWERS

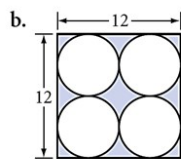
8.4 Exercises

Review

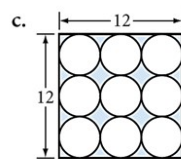
15. Which one of the figures (a–d) has the greatest amount of shaded area? Which has the least? All the squares are congruent. Each set of circles is externally tangent. **h** The shaded region in each figure has the same area



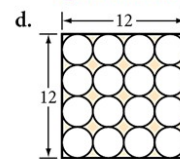
$(144 - 36\pi) \text{ cm}^2$



$(144 - 36\pi) \text{ cm}^2$



$(144 - 36\pi) \text{ cm}^2$



$(144 - 36\pi) \text{ cm}^2$

16. The height of a trapezoid is 15 m and the midsegment is 32 m. What is the area of the trapezoid? **h** 480 m^2

Green Worksheet (from last Thursday):

4. A parallelogram has an area of 35. If the length and width are $(x+2)$ and $(2x+1)$, find the perimeter.

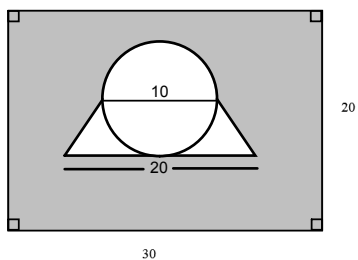
Big Idea Problems (4):

Working with your table group, complete 4 big idea problems.

- Work on problems one at a time
- Entire group must be involved
- Check answer with Mrs. Field before going on

Big Idea Problem #1

Find the area of the shaded region:



Area: _____

Big Idea:**Big Idea Problem #2**Segment $AC = 8$ and Segment $QF = 10$. The two segments intersect and are perpendicular to form a quadrilateral $AQCF$.Find the area of $AQCF$.

Area: _____

Big Idea:**Big Idea Problem #3**Find the area of the figure formed by the line of the equation $2x + 4y = 16$, the X axis, and the Y axis.

Area: _____

Big Idea:**Big Idea Problem #4**Find the area of YQD if $Y: (4, 8)$, $Q: (7, 8)$ and $D: (5, 9)$.

Area: _____

Big Idea:

Practice/Homework:

Finish Buying Carpet Task

Finish Green Worksheet