حل مراجعة الوحدة الثامنة Area المساحة منهج ريفيل

Alghazali School

Grade 6
Term 3

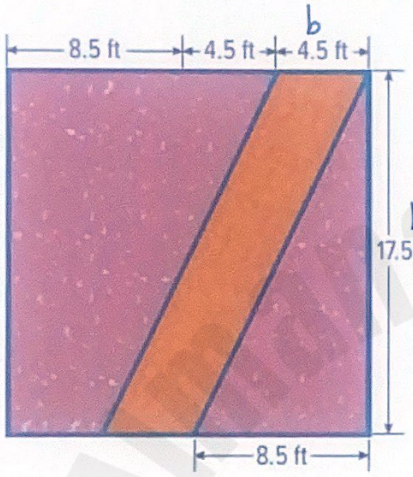
Module 8 Review Area

Answer key

Done by/Ahmed Zain

Lesson 8-1
Area of Parallelogram

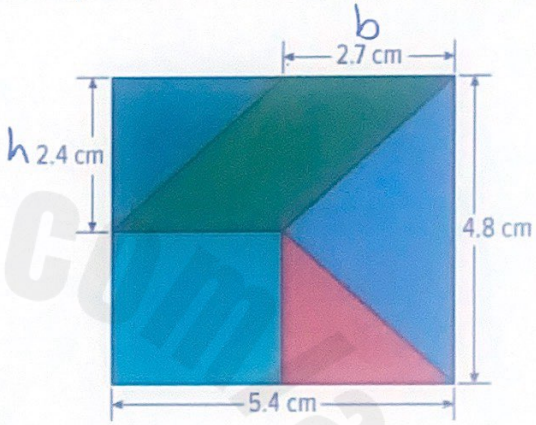
1) The pattern shows the dimensions of a square plot of tulips.



What is the area of the section containing orange tulips?

$A = b \times h = 4.5(17.5) = 78.75 \text{ ft}^2$

2) The pattern shows the dimensions of a set of blocks.

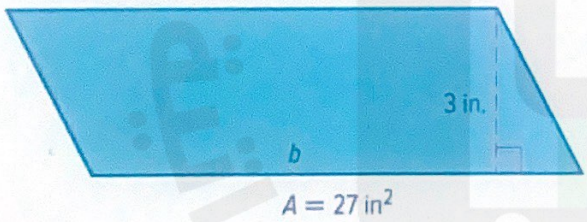


What is the area of the green block?

$A = b \times h = 2.7(2.4)$

6.48 square centimeters

3) Find the missing dimension of the parallelogram.

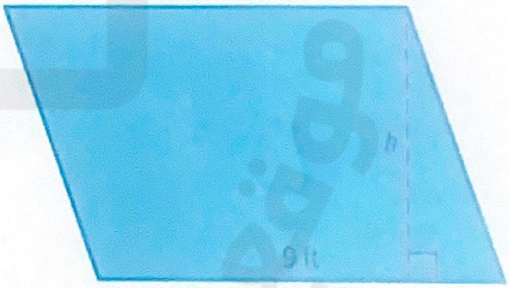


$A = 27 \text{ in}^2$

$b = 9$ in.

$b = \frac{A}{h} = \frac{27}{3} = 9 \text{ in}$

4) Find the missing dimension of the parallelogram.

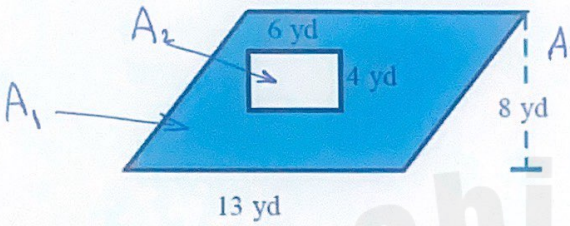


$A = 54 \text{ ft}^2$

$h = 6$ ft

$h = \frac{A}{b} = \frac{54}{9} = 6 \text{ ft}$

5) A rectangular region is removed from a parallelogram region to create the shaded region shown below. Find the area of the shaded region.



Area of parallogram $\Rightarrow A_1 = b \times h = 13(8) = 104\ yd^2$

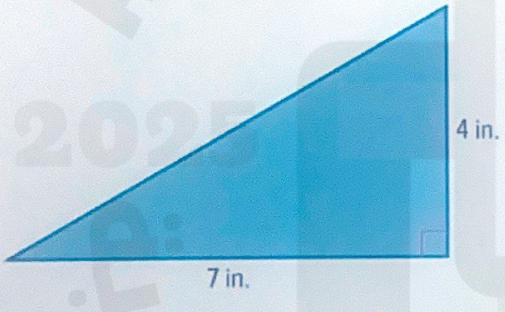
Area of rectangle $A_2 = lw$
$= 6(4) = 24\ yd^2$

Area of shaded region $= A_1 - A_2 = 104 - 24$
$= 80\ yd^2$

Lesson 8-2

Area of Triangles

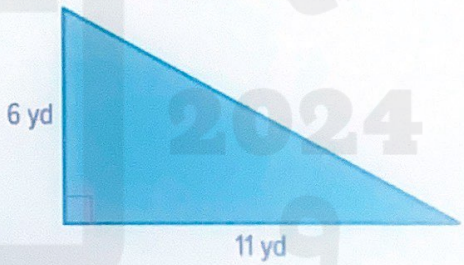
1) Find the area of the triangle.



__ square inches

$A = \frac{1}{2}bh = \frac{1}{2} \times 7 \times 4$
$= 14\ in^2$

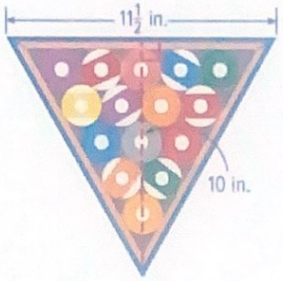
2) Find the area of the triangle.



__ square yards

$A = \frac{1}{2}bh = \frac{1}{2} \times 11 \times 6$
$= 33\ yd^2$

3) John is arranging billiard balls in a rack. What is the area of the rack?



$A = \frac{1}{2}bh = \frac{1}{2} \times 11\frac{1}{2} \times 10$

$= 57.5 \text{ in}^2$

57.5 square inches

4) Find the missing dimension of the triangle.

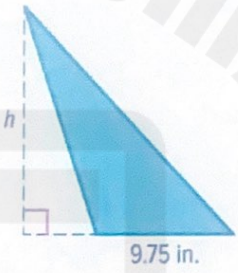
$A = 29.25 \text{ ft}^2$

$b = \_\_ \text{ ft}$

$b = \frac{2A}{h} = \frac{2(29.25)}{9}$

$= 6.5 \text{ ft}$

5) Find the missing dimension of the triangle.



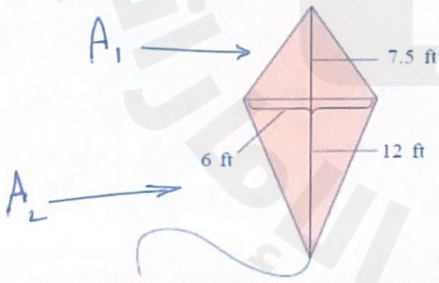
$A = 78 \text{ in}^2$

$h = \_\_ \text{ in.}$

$h = \frac{2A}{b} = \frac{2(78)}{9.75}$

$= 16 \text{ in}$

6) Find the area of the kite.



$A_1 = \frac{1}{2}bh = \frac{1}{2} \times 6 \times 7.5$

$= 22.5 \text{ ft}^2$

$A_2 = \frac{1}{2} \times 6 \times 12$

$= 36 \text{ ft}^2$

$A = A_1 + A_2 = 22.5 + 36$

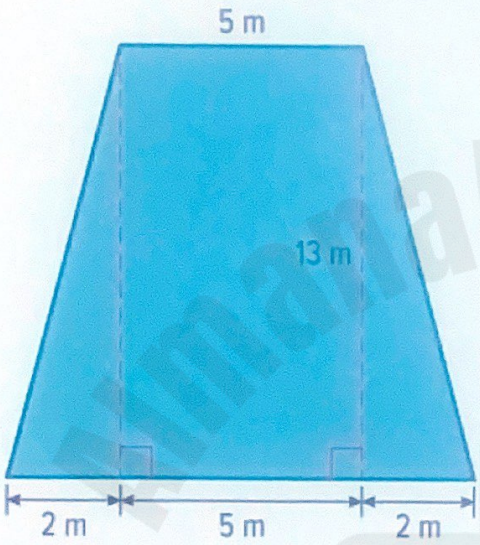
$= 58.5 \text{ ft}^2$

The area of the kite is 58.5 ft^2.

Lesson 8-3

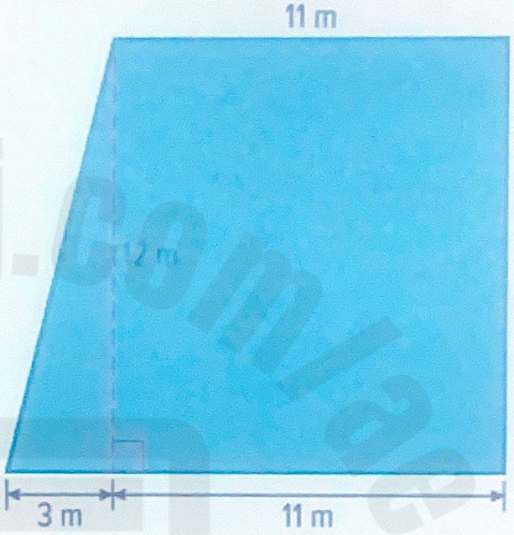
Area of Trapezoid

1) Decompose the trapezoid to find its area.



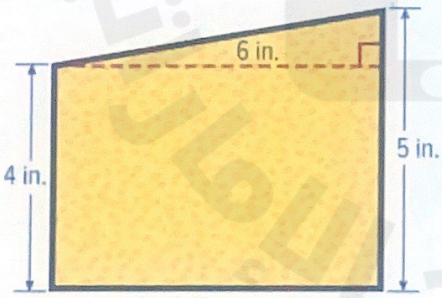
91 square meters

2) Decompose the trapezoid to find its area.



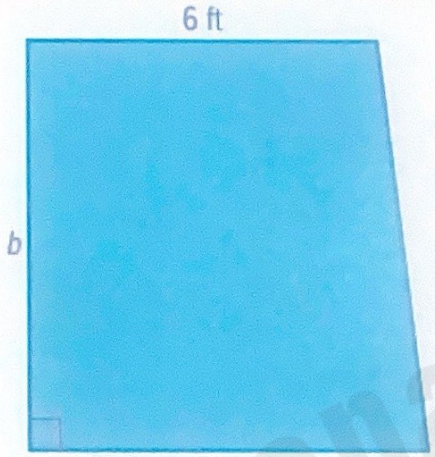
150 square meters

3) The side of the bookend shown resembles a trapezoid. What is the approximate area of the side of the bookend?



27 square inches

3) Find the missing dimension of the trapezoid.



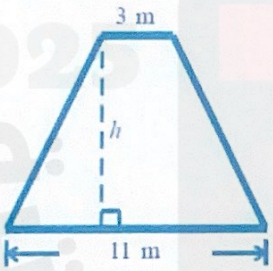
$A = 56\ \text{ft}^2$

8 feet

$$b = \frac{2A}{b_1 + b_2} = \frac{2(56)}{6+8}$$

$$= 8\ \text{ft}$$

4) The area of this trapezoid is $56\ \text{m}^2$. Find the height h. Be sure to include the correct unit in your answer.



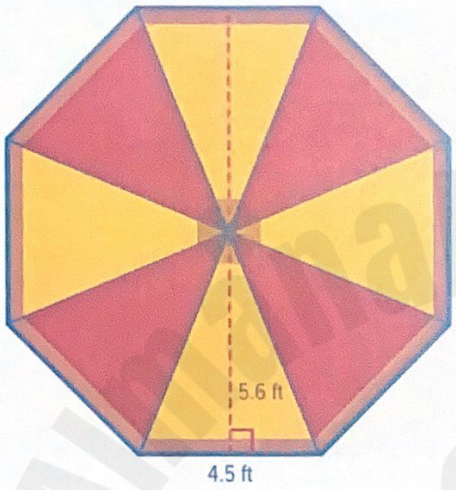
$$h = \frac{2A}{b_1 + b_2} = \frac{2(56)}{3+11}$$

$$= 14\ \text{m}$$

Lesson 8-4

Area of Regular Polygons

1) Elena takes her younger cousin to ride on a merry-go-round at a fair. The top of the merry-go-round is shaped like a regular octagon. Each side of the octagon is 4.5 feet. Find the area of the merry-go-round.



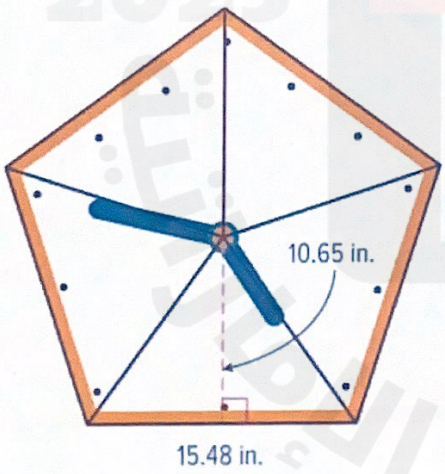
$A = (\text{Area of one Triangle}) \times (\text{no. of sides})$

$= \left(\frac{1}{2} \times 4.5 \times 5.6\right) \times 8$

$= 100.8 \text{ ft}^2$

_____ square feet

2) Zion has a clock shaped like a regular pentagon. Each side of the pentagon is 11.75 inches. Find the area of the clock. Round to the nearest hundredth.

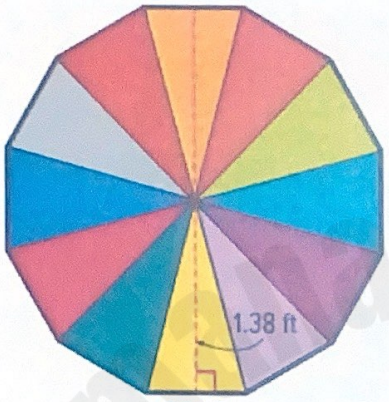


$A = \left(\frac{1}{2} \times 15.48 \times 10.65\right)(5)$

$= 412.155 \text{ in}^2$

412.155 square inches

3) Vicente has a colorful parachute he uses to play games with his younger brother. The parachute is shaped like a regular dodecagon. Each side of the dodecagon is 0.75 foot. Find the area of the parachute.



Area of One Triangle

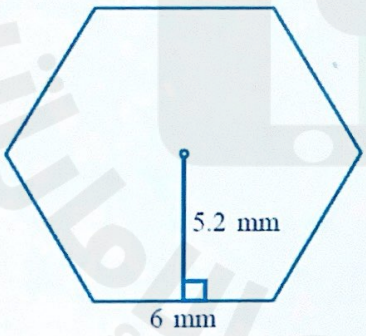
No. of Sides

$A = \frac{1}{2} \times 0.75 \times 1.38 \times 12$

$= 6.21 \text{ ft}^2$

6.21 square feet

4) A regular hexagon is shown. Each side is approximately 6 mm, and the distance from each side to the center is approximately 5.2 mm. Find the area of the hexagon. Do not round your answer.



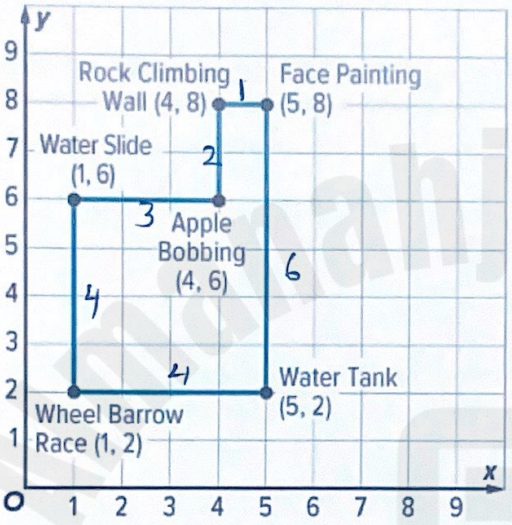
$A = \frac{1}{2} \times 6 \times 5.2 \times 6$

$= 93.6 \text{ mm}^2$

Lesson 8-5

Polygons on the Coordinate Plane

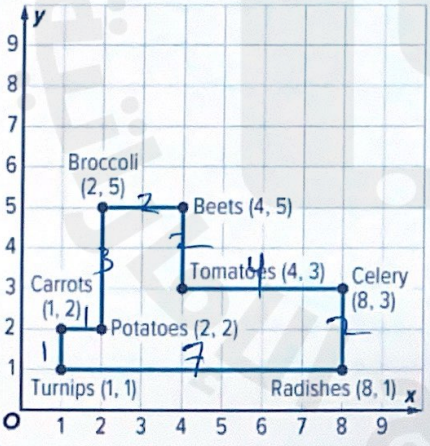
1) Find the perimeter of the school fair shown on the coordinate plane.



Perimeter =
4+4+3+2+1+6 = 20 units

20 units

2) Find the perimeter of the vegetable garden shown on the coordinate plane.



7+1+1+3+2+2+4+2
= 22 units

22 units

3) A rectangle has vertices $W(1, 1)$, $X(1, 3)$, $Y(9, 3)$, and $Z(9, 1)$. Use the coordinates to find the perimeter of the rectangle.

20 units

$WX = 3 - 1 = 2$ $\quad XY = 9 - 1 = 8$

perimeter $= 2 + 2 + 8 + 8 = 20$

4) A rectangle has vertices $H(2, 3)$, $I(2, 8)$, $J(5, 8)$, and $K(5, 3)$. Use the coordinates to find the perimeter of the rectangle.

16 units

$HI = 8 - 3 = 5$ $\quad IJ = 5 - 2 = 3$

$P = 5 + 5 + 3 + 3 = 16$

5) A rectangle has vertices $A(3, 4)$, $E(3, 10)$, $I(7, 10)$, and $O(7, 4)$. Use the coordinates to find the perimeter of the rectangle.

20 units

$AE = 10 - 4 = 6$ $\quad EI = 7 - 3 = 4$

$P = 6 + 6 + 4 + 4 = 20$

6) A rectangle has vertices $G(0, 1)$, $R(0, 8)$, $E(7, 8)$, and $Y(7, 1)$. Use the coordinates to find the perimeter of the rectangle.

28 units

$GR = 8 - 1 = 7$ $\quad RE = 7 - 0 = 7$

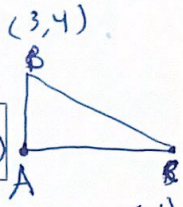
$P = 7 + 7 + 7 + 7 = 28$

7) A polygon has vertices $A(3, 1)$, $B(3, 4)$, and $C(8, 1)$. Find the area of the polygon.

7.5 square units

$AB = 4 - 1 = 3$ $\quad AC = 8 - 3 = 5$

$\text{Area} = \frac{1}{2} \times 3 \times 5 = 7.5$



8) A polygon has vertices $X(5, 6)$, $Y(5, 9)$, and $Z(1, 9)$. Find the area of the polygon.

6 square units

$XY = 9 - 6 = 3$

$YZ = 5 - 1 = 4$

$\text{Area} = \frac{1}{2} \times 3 \times 4 = 6$