NAME _____ DATE _____ SCORE _____

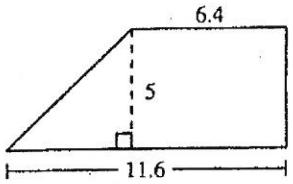
Skip 7

Areas of Trapezoids

For use after Section 11–3

Find the area of each trapezoid.

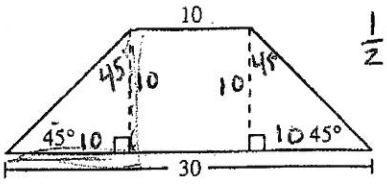
1.



$\frac{1}{2}5(6.4+11.6)$

$A =$ 45

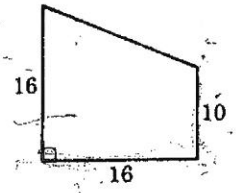
2.



$\frac{1}{2}(10)(10+30)$

$A =$ 200

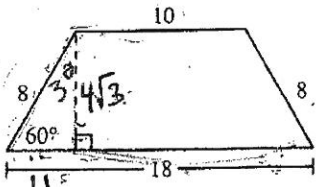
3.



$\frac{1}{2}(16)(16+10)$

$A =$ 208

4.

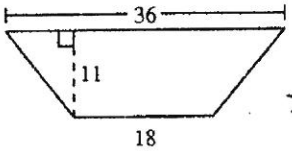


$\frac{1}{2}(4\sqrt{3})(10+18)$

4

$A \approx$ 96.99 ≈ 97

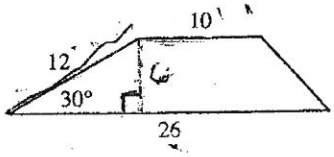
5.



$\frac{1}{2}(11)(36+18)$

$A =$ 297

6.



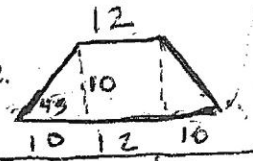
$\frac{1}{2}(6)(10+26)$

$A =$ 108

7. A trapezoid has area 112 and median 16. What is its height? _____

8. A trapezoid has area 72 and height 9. How long is its median? _____

9. An isosceles trapezoid has base angles of 45° and bases of lengths 12 and 32. Find its area. 220



10. Find the height and perimeter of an isosceles trapezoid with bases 36 and 60 and area 768. $h =$ 16, $p =$ 136

$768 = (1/2)(36+60)h$

11. Find the area and the length of the median of an isosceles trapezoid with legs 10 and bases 14 and 26. $A =$ _____, length of median = _____

$120 = \frac{1}{2}(6+9)h$

$\frac{240}{15} = \frac{15h}{15}$

$16 = h$

12. Find the height of a trapezoid with bases 9 and 6 and area 120. 16

$144 = \frac{1}{2}(15+b)6$

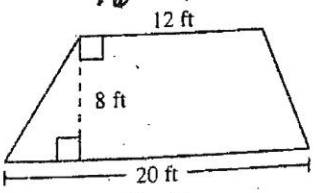
$288 = 6(15+b)$

$48 = 15+b$

$b = 33$

13. The area of a trapezoid is 144 km^2. The shorter base is 15 km and the height is 6 km. Find the longer base. 33

14. Find the area of the flower garden shown. 128



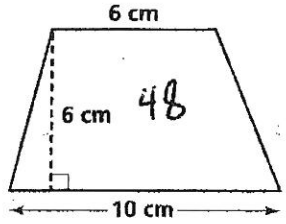
Ex. 14

Name _____ Class _____ Date _____

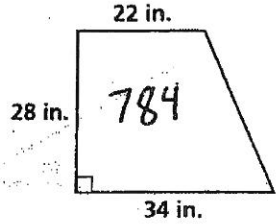
Practice 7-4

Areas of Trapezoids, Rhombuses, and Kites

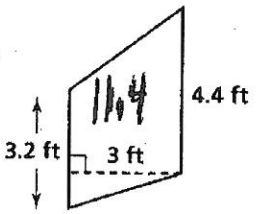
Find the area of each trapezoid.

1. 

48

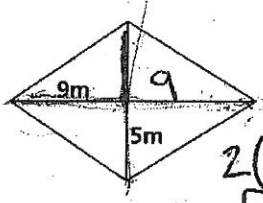
2. 

784

3. 

11.4

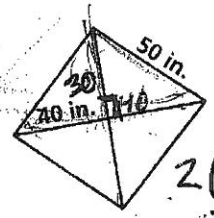
Find the area of each rhombus.

4. 

9

$2(\frac{1}{2}\cdot 18\cdot 5)$

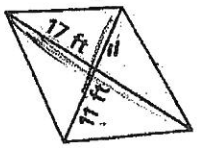
$\boxed{90}$

5. 

30 40

$2(\frac{1}{2}\cdot 30\cdot 80)$

$\boxed{2400}$

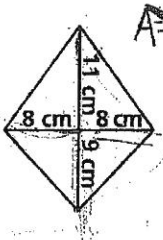
6. 

11

$2(\frac{1}{2}\cdot 34\cdot 11)$

$\boxed{374}$

Find the area of each kite.

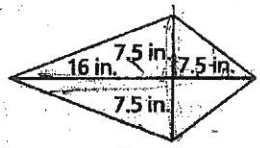
7. 

$A=2(\frac{1}{2}\cdot 8\cdot 20)$

$A=160$

$A=2(\frac{1}{2}\cdot 20\cdot 8)$

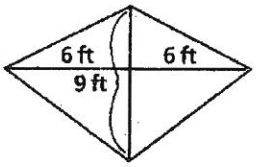
$A=160$

8. 

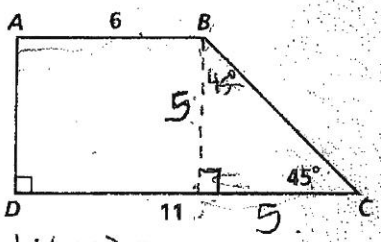
$A=2(\frac{1}{2}\cdot 23.5\cdot 7.5)$

176.25

SKIP

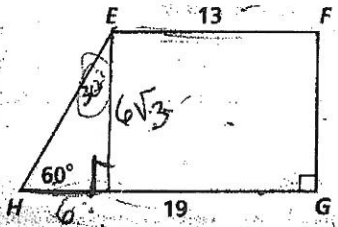


Find the area of each trapezoid. Leave your answers in simplest radical form.

10. 

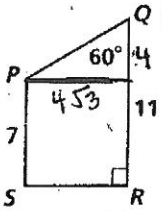
5 7 5

$A=\frac{1}{2}(6+11)5=42.5$

11. 

$6\sqrt{3}$ 30 6

$A=\frac{1}{2}(13+19)6\sqrt{3}=166.3$

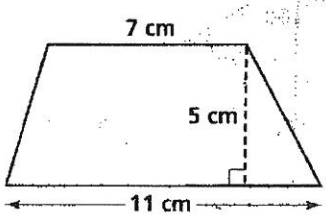
12. 

$4\sqrt{3}$

$A=\frac{1}{2}(7+11)4\sqrt{3}$

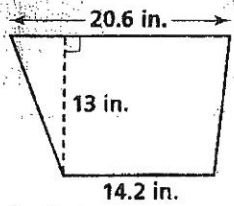
$=62.4$

Find the area of each trapezoid to the nearest tenth.

13. 

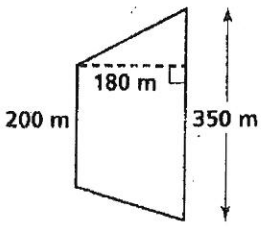
$A=\frac{1}{2}(7+11)5$

$=45$

14. 

$A=\frac{1}{2}(20.6+14.2)13$

$=226.2$

15. 

$A=\frac{1}{2}(200+350)180$

$=49500$

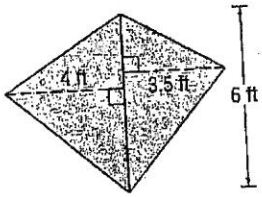
NAME _____ DATE _____

11-2 Skills Practice

Areas of Triangles, Trapezoids, and Rhombi

Find the area of each figure. Round to the nearest tenth if necessary.

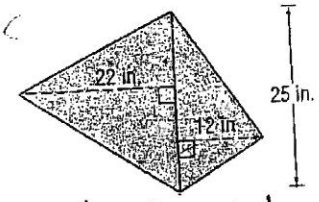
1.



$A = \frac{1}{2}(6)(3.5) + \frac{1}{2}(6)(4)$

$= 22.5$

2.

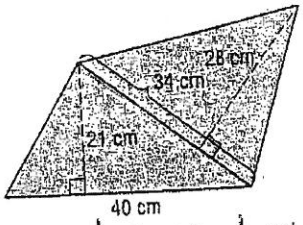


$A = \frac{1}{2} \cdot 25 \cdot 12 + \frac{1}{2} \cdot 25 \cdot 22$

$= 150 + 275$

$\boxed{A = 425}$

3.



$A = \frac{1}{2} \cdot 40 \cdot 21 + \frac{1}{2} \cdot 34 \cdot 28$

$\boxed{A = 896}$

Find the area of each quadrilateral given the coordinates of the vertices.

4. trapezoid *WXYZ*
$W(-5, 3)$, $X(3, 3)$, $Y(6, -3)$, $Z(-8, -3)$

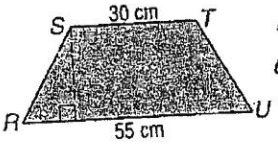
66

5. rhombus *HIJK*
$H(4, -3)$, $I(2, -7)$, $J(0, -3)$, $K(2, 1)$

16

Find the missing measure for each figure.

6. Trapezoid *RSTU* has an area of 935 square centimeters. Find the height of *RSTU*.

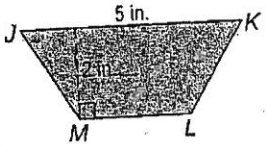


$A = \frac{1}{2}(b_1 + b_2)h$

$935 = \frac{1}{2}(85)h$

$h = \frac{935 \cdot 2}{85} = \boxed{22}$

7. Trapezoid *JKLM* has an area of 7.5 square inches. Find *ML*.



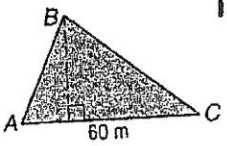
$7.5 = \frac{1}{2}(5 + b)2$

$15 = (5 + b)2$

$7.5 = (5 + b)$

$\boxed{b = 2.5}$

8. Triangle *ABC* has an area of 1050 square meters. Find the height of $\triangle ABC$.

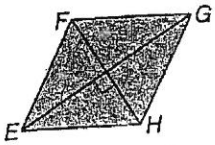


$1050 = \frac{1}{2}(60)h$

$1050 = 30h$

$\boxed{35 = h}$

9. Rhombus *EFGH* has an area of 750 square feet. If *EG* is 50 feet, find *FH*.

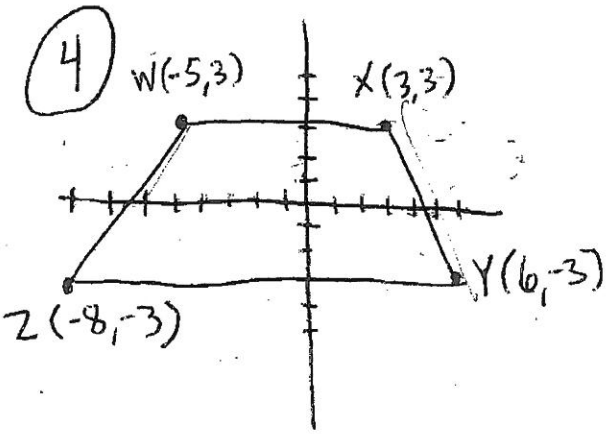


$750 = \frac{1}{2}(50)FH$

$750 = 25FH$

$\boxed{30 = FH}$

4



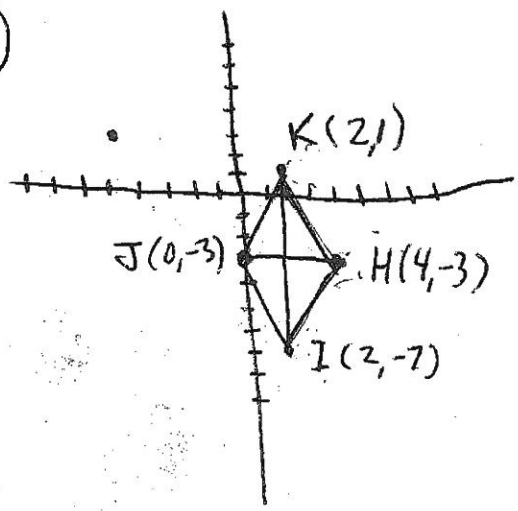
$b_1 = 8 = |-5-3|$

$b_2 = 14 = |-8-6|$

$h = 6$

$A = \frac{1}{2}(8+14)6 = 66$

5



$d_1 = |1-(-7)| = 8$

$d_2 = |0-4| = 4$

$Area = \frac{1}{2} 8 \cdot 4 = \boxed{16}$

NAME _____ DATE _____ PERIOD _____

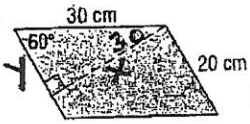
11-1 Skills Practice

Just 1-9

Area of Parallelograms

Find the perimeter and area of each parallelogram. Round to the nearest tenth if necessary.

1.



$y = 15$

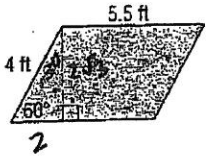
$x = 15\sqrt{3}$

$A = 20(15\sqrt{3})$

$= 300\sqrt{3}$

$\approx \boxed{519.62}$

2.

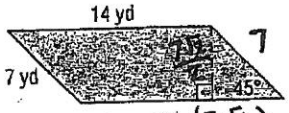


$A = b \cdot h$

$A = 5.5(2\sqrt{3})$

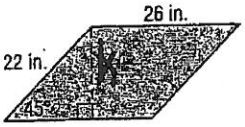
$A = 19.05$

3.



$A = 14\left(\frac{7\sqrt{2}}{2}\right) = 69.30$

4.

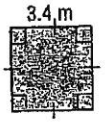


$h = \frac{22}{\sqrt{2}} = \frac{22\sqrt{2}}{2} = 11\sqrt{2}$

$A = 26(11\sqrt{2})$

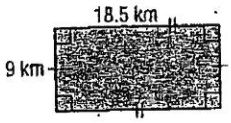
$A = 404.5$

5.



$A = (3.4)^2 = 11.56$

6.

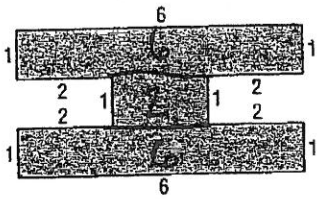


$A = 9(18.5)$

$A = 166.5$

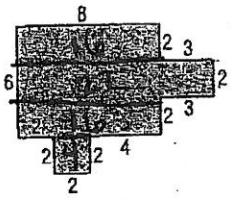
Find the area of each figure.

7.



$A = 14$

8.



$A = 58$

COORDINATE GEOMETRY **Given the coordinates of the vertices of a quadrilateral, determine whether it is a *square*, a *rectangle*, or a *parallelogram*. Then find the area of the quadrilateral.**

9. $A(-4, 2)$, $B(-1, 2)$, $C(-1, -1)$, $D(-4, -1)$

10. $P(-3, 3)$, $Q(1, 3)$, $R(1, -3)$, $S(-3, -3)$

11. $D(-5, 1)$, $E(7, 1)$, $F(4, -4)$, $G(-8, -4)$

12. $R(2, 3)$, $S(4, 10)$, $T(12, 10)$, $U(10, 3)$