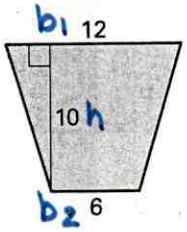
Name _____ Date _____

LESSON 11.2 **Practice**
For use with pages 729–736

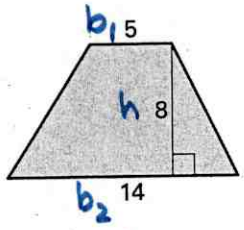
$A = \frac{h(b_1 + b_2)}{2}$

Find the area of the trapezoid.

1. 

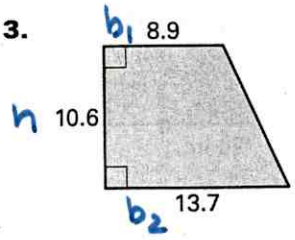
$A = \frac{10(12+6)}{2} = \frac{10(18)}{2}$

$A = 90\ u^2$

2. 

$A = \frac{8(14+15)}{2} = \frac{8(29)}{2}$

$A = 76\ u^2$

3. 

$A = \frac{10.6(8.9+13.7)}{2} =$

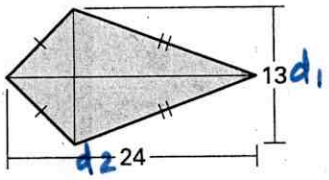
$\frac{10.6(22.6)}{2}$

$A = 119.78\ u^2$

$A = \frac{d_1(d_2)}{2}$

Find the area of the rhombus or kite.

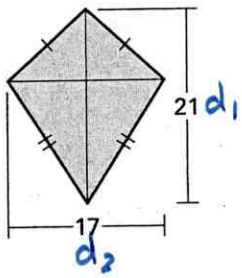
$A = \frac{d_1 \cdot d_2}{2}$

4. 

$A = \frac{13(24)}{2}$

$A = 156\ u^2$

Rhombus

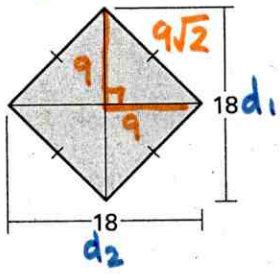
5. 

$A = \frac{21(17)}{2}$

$A = 178.5\ u^2$

Kite

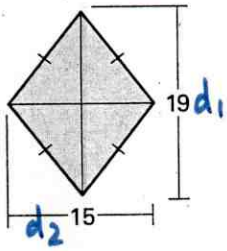
Square

6. 

$A = \frac{18(18)}{2}$

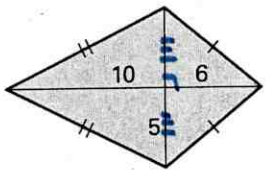
$A = 162\ u^2$

Rhombus

7. 

$A = \frac{19(15)}{2}$

$A = 142.5\ u^2$

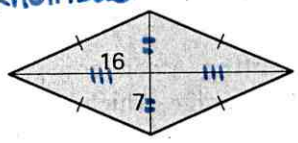
8. 

$d_1 = 10 + 6 \quad d_2 = 2(5)$

$d_1 = 16 \quad d_2 = 10$

$A = \frac{16(10)}{2}$

$A = 80\ u^2$

9. 

$d_1 = 2(16) \quad d_2 = 2(7)$

$d_1 = 32 \quad d_2 = 14$

$A = \frac{32(14)}{2}$

$A = 224\ u^2$

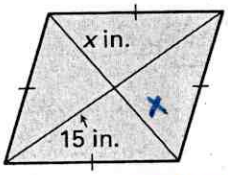
Name _____ Date _____

LESSON 11.2 **Practice** *continued*
For use with pages 729–736

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

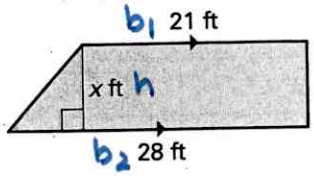
Use the given information to find the value of x.

10. Area = 330 in.^{2} $A = \frac{d_1(d_2)}{2}$



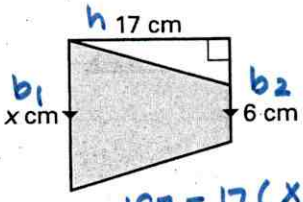
$d_1 = 2(15)$
$d_1 = 30$
$d_2 = x + x$
$d_2 = 2x$
$330 = \frac{30(2x)}{2}$
$330 = 30x$
$x = 11$ in

11. Area = 196 ft^2



$196 = \frac{x(21+28)}{2}$
$392 = x(49)$
$x = 8$ ft

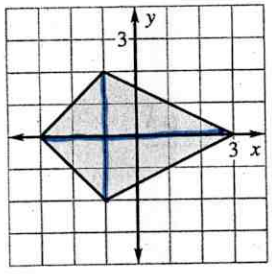
12. Area = 187 cm^2



$187 = \frac{17(x+6)}{2}$
$\frac{374}{17} = \frac{17(x+6)}{17}$
$22 = x + 6$
$x = 16$ cm

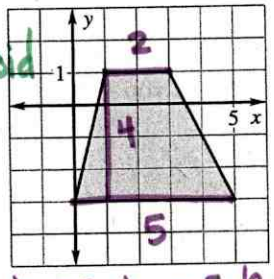
Find the area of the figure.

13. Kite



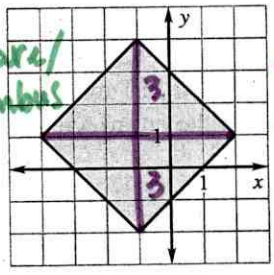
$d_1 = 6$ $d_2 = 4$
$A = \frac{6(4)}{2}$
$A = 12u^2$

14. Trapezoid



$b_1 = 2$ $b_2 = 5$ $h = 4$
$A = \frac{4(2+5)}{2}$
$A = 14u^2$

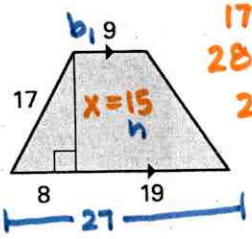
15. Square/Rhombus



$d_1 = 6$
$d_2 = 6$
$A = \frac{6(6)}{2}$
$A = 18u^2$

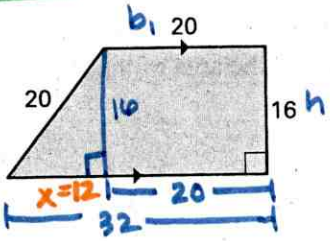
Find the area of the polygon.

16.



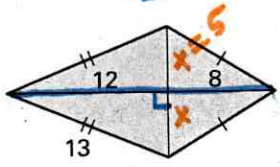
$17^2 = x^2 + 8^2$
$289 = x^2 + 64$
$225 = x^2$
$x = 15$
$A = \frac{15(9+27)}{2}$
$= 270u^2$

17.



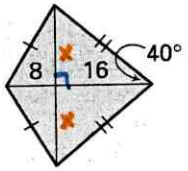
$20^2 = x^2 + 16^2$
$400 = x^2 + 256$
$144 = x^2$
$x = 12$
$A = \frac{16(20+32)}{2}$
$A = 416u^2$

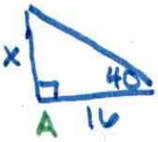
18.



$13^2 = x^2 + 12^2$
$169 = x^2 + 144$
$25 = x^2$
$x = 5$
$d_1 = 12 + 8$ $d_2 = 2(5)$
$d_1 = 20$ $d_2 = 10$
$A = \frac{20(10)}{2}$
$A = 100u^2$

19.



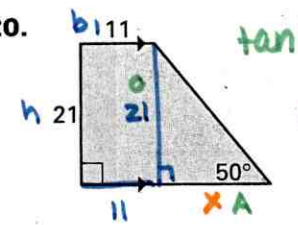


$\tan(40) = \frac{x}{16}$
$x = 16(\tan(40))$
$x = 13.4$
$d_1 = 8 + 16$ $d_2 = 2(13.4)$
$d_1 = 24$ $d_2 = 26.8$
$A = \frac{24(26.8)}{2}$
$A = 321.6u^2$

Name _____ Date _____

LESSON 11.2 **Practice** *continued*
For use with pages 729–736

20.



$\tan(50) = \frac{21}{x}$

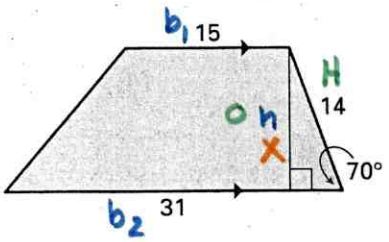
$x = \frac{21}{\tan(50)}$

$x = 17.6$

28.6

$A = \frac{21(11 + 28.6)}{2}$ $= 415.8\ u^2$

21.



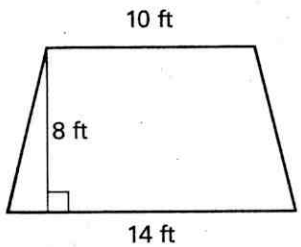
$\sin(70) = \frac{x}{14}$

$x = 14(\sin(70))$

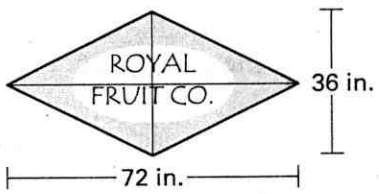
$x = 13.2$

$A = \frac{13.2(15 + 31)}{2}$ $= 303.6\ u^2$

22. Washing Windows You are going to wash a large glass window in the shape of a trapezoid. The lengths of the bases of the window are 10 feet and 14 feet. The height is 8 feet. You can wash 6 square feet of the window in 1 minute. How long will it take you to wash the entire window?



23. Company Logo A company has a logo that is in the shape of a rhombus. The company wants to put its logo on a sign outside the building. On the sign, the diagonals of the rhombus will be 72 and 36 inches long. Find the area of the logo.



24. Flower Decoration You are making a flower decoration for your house in the shape of a kite. The area of the decoration is 450 square centimeters and the length of one diagonal is 25 centimeters. Find the length of the other diagonal.