Practice 10-1 10-2

Areas of Trapezoids, Rhombuses, and Kites and Triangles

Find the area of each triangle, given the base b and the height h.

10.1

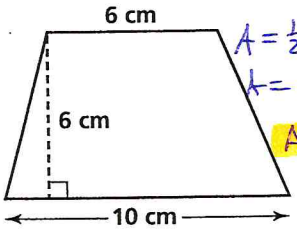
1. $b = 4, h = 4$ $A = \frac{1}{2}(4)(4) = 2 \cdot 4 = 8u^2$

2. $b = 8, h = 2$ $A = \frac{1}{2}(8)(2) = 4 \cdot 2 = 8u^2$

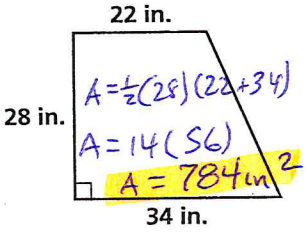
3. $b = 20, h = 6$ $A = \frac{1}{2}(20)(6) = 10 \cdot 6 = 60\ u^2$

Find the area of each trapezoid.

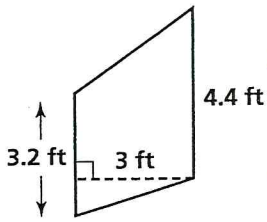
10.2

1. 

$A = \frac{1}{2}(6)(6+10)$
$A = 3(16)$
$A = 48cm^2$

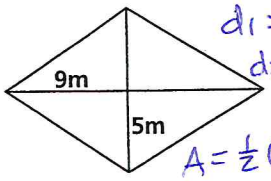
2. 

$A = \frac{1}{2}(28)(22+34)$
$A = 14(56)$
$A = 784in^2$

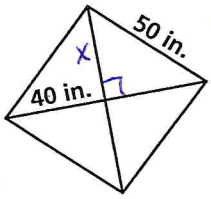
3. 

$A = \frac{1}{2}(3)(3.2+4.4)$
$A = \frac{1}{2}(3)(7.6)$
$A = 3.8(3)$
$A = 11.4ft^2$

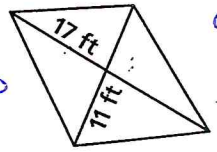
Find the area of each rhombus.

4. 

$d_1 = 2 \cdot 9 = 18$
$d_2 = 5 \cdot 2 = 10$
$A = \frac{1}{2}(10)(18)$
$A = 9 \cdot 10 = 90m^2$

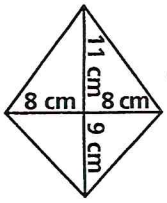
5. 

$d_1 = 40 \cdot 2 = 80$
$x^2 + 40^2 = 58^2$
$x^2 + 1600 = 2500$
$x^2 = 900$
$x = 30$
$d_2 = 30 \cdot 2 = 60$
$A = \frac{1}{2}(60)(80) = 30 \cdot 80 = 2400in^2$

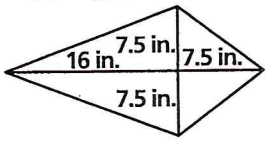
6. 

$d_1 = 17 \cdot 2 = 34$
$d_2 = 11 \cdot 2 = 22$
$A = \frac{1}{2}(22)(34)$
$A = 11 \cdot 34$
$A = 374ft^2$

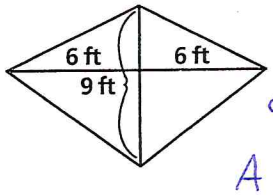
Find the area of each kite.

7. 

$d_1 = 8 \cdot 2 = 16$
$d_2 = 11 + 9 = 20$
$A = \frac{1}{2}(20)(16)$
$A = 10 \cdot 16 = 160cm^2$

8. 

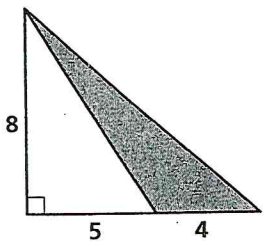
$d_1 = 7.5 \times 2 = 15$
$d_2 = 16 + 7.5 = 23.5$
$A = \frac{1}{2}(15)(23.5)$
$A = 7.5(23.5) = 176.25in^2$

9. 

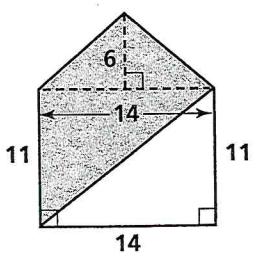
$d_1 = 9$
$d_2 = 2 \cdot 6 = 12$
$A = \frac{1}{2}(12)(9)$
$A = 6 \cdot 9$
$A = 54ft^2$

Find the area of the shaded region.

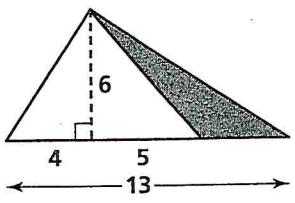
10.1

15. 

OUTER: $A_\Delta = \frac{1}{2}(5+4)(8)$
$A_\Delta = 4 \cdot 9 = 36$
WHITE: $A_\Delta = \frac{1}{2}(8)(5) = 4 \cdot 5 = 20$
SHADED: $36 - 20 = 16u^2$

16. 

Shaded Upper Δ: $A = \frac{1}{2}(14)(6)$
$A = 7 \cdot 6 = 42$
Shaded lower Δ $A = \frac{1}{2}(14)(11)$
$A = 7 \cdot 11 = 77$
$42 + 77 = 119u^2$

17. 

WHOLE FIG: $A = \frac{1}{2}(6)(13)$
$A = 3 \cdot 13 = 39$
WHITE Δ: $A = \frac{1}{2}(6)(4+5)$
$A = 3(9) = 27$
Shaded: $39 - 27$
$12u^2$