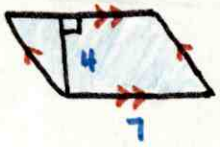
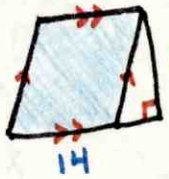
11.1

Find the area.

3) 

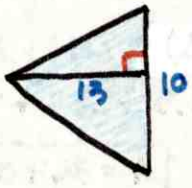
$A = BH$
$A = 7(4)$
$A = 28\ u^2$

4) 

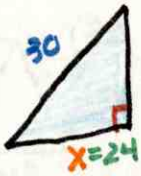
$A = BH$
$A = 14(12)$
$A = 168\ u^2$

5) 

$A = s^2$
$A = 15^2$
$A = 225 u^2$

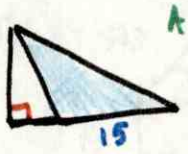
6) 

$A = \frac{bh}{2}$
$A = \frac{10(13)}{2}$
$A = 65\ u^2$

7) 

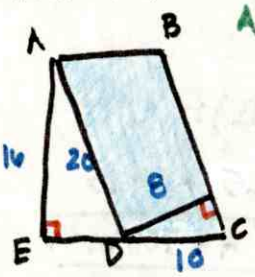
$A = \frac{bh}{2}$
$A = \frac{24(18)}{2}$
$A = 216\ u^2$

$30^2 = x^2 + 18^2$
$900 = x^2 + 324$
$x^2 = 576$
$x = 24$

8) 

$A = \frac{bh}{2}$
$A = \frac{15(9)}{2}$
$A = 67.5 u^2$

9) 2 ways to calculate the area of parallelogram ABCD.



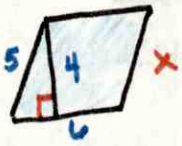
$Area_1 = bh$ $b = 10$ $h = 16$
$A_1 = 10(16)$
$A_1 = 160\ u^2$

$Area_2 = bh$ $b = 20$ $h = 8$
$A_2 = 20(8)$
$A_2 = 160\ u^2$

Areas are the same

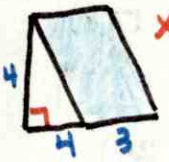
Describe and correct the error.

10) $A = bh$
$= 6(5)$
$= 30$



$A = bh$
$= 6(4)$
$= 24$

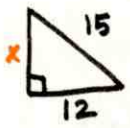
11) $A = bh$
$= 7(4)$
$= 28$



$A = bh$
$= 3(4)$
$= 12$

Find the perimeter and area.

12) Hypotenuse: 15 in ; leg: 12 in

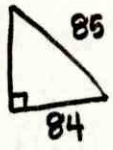


$15^2 = x^2 + 12^2$
$225 = x^2 + 144$
$x^2 = 81$
$x = 9$

$A = \frac{12(9)}{2}$
$A = 54\ in^2$

$P = 9 + 12 + 15$
$P = 36\ in$

14) Hypotenuse: 85m ; leg: 84 m



$85^2 = x^2 + 84^2$
$7225 = x^2 + 7056$
$x^2 = 169$
$x = 13$

$A = \frac{84(13)}{2}$
$A = 546\ m^2$

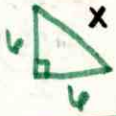
$P = 13 + 84 + 85$
$P = 182\ m$

Find the value of x.

16) $A = 36\ in^2$

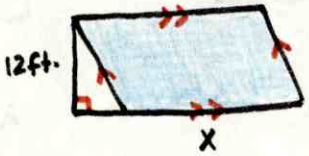
$b = 12$
$h = 6$

$36 = \frac{12(h)}{2}$
$36 = 6h$
$h = 6$



$x = 6\sqrt{2}$ in
45-45-90

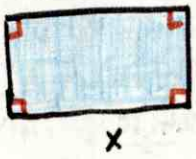
17) $A = 276\ ft^2$



$b = x$
$h = 12$

$276 = 12x$
$x = 23\ ft$

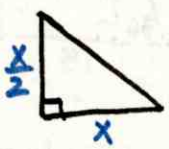
18) $A = 476\ cm^2$



$b = x$
$h = 17$

$476 = 17x$
$x = 28\ cm$

19) The area of a triangle is 4 square feet. The height is half its base. Find the base and height.



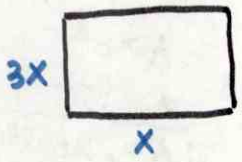
$A = 4$
$b = x$
$h = \frac{x}{2}$

$A = \frac{bh}{2}$
$4 = \frac{x\left(\frac{x}{2}\right)}{2}$
$8 = \frac{x^2}{2}$

$16 = x^2$
$x = 4$

$b = 4, h = 2$ (1/2)

20) The area of a parallelogram is 507 square cm, and its height is three times the base. Find the base and height.



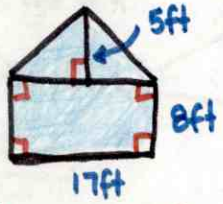
$A = 507$ $\quad A = bh$
$b = x$
$h = 3x$

$507 = x(3x)$
$507 = 3x^2$
$x^2 = 169$
$x = 13$

$b = 13$, $h = 3(13) = 39$

Find the area of the shaded polygon.

22)

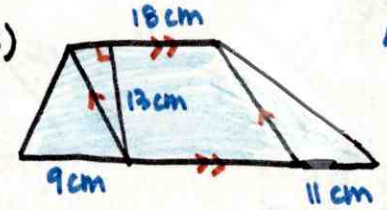


A(Rectangle) + A(Triangle)
136 + 42.5
$A = 178.5\ ft^2$

$A(\square)$ $\quad b(h)$ $\quad 17(8) = 136$

$A(\triangle)$ $\quad \frac{bh}{2} \rightarrow \frac{17(5)}{2} = 42.5$

23)



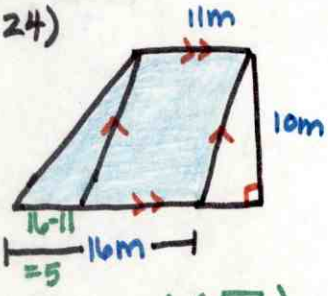
$A(\triangle) + A(\square) + A(\triangle)$
$58.5 + 234 + 71.5$
$A = 364\ cm^2$

$A(\triangle)$ $\quad \frac{9(13)}{2} = 58.5$

$A(\square)$ $\quad 18(13) = 234$

$A(\triangle)$ $\quad \frac{11(13)}{2} = 71.5$

24)

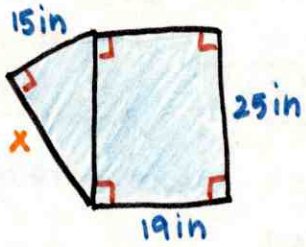


$A(\triangle) + A(\square)$
$25 + 110$
$A = 135\ m^2$

$A(\triangle)$ $\quad \frac{5(10)}{2} = 25$

$A(\square)$ $\quad 11(10) = 110$

25)



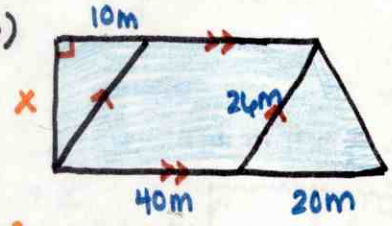
$A(\triangle) + A(\square)$
$150 + 475$
$A = 625\ in^2$

$25^2 = x^2 + 15^2$
$625 = x^2 + 225$
$x^2 = 400$
$x = 20$

$A(\triangle)$ $\quad \frac{15(20)}{2} = 150$

$A(\square)$ $\quad 19(25) = 475$

26)



$A(\triangle) + A(\square) + A(\triangle)$
$120 + 960 + 240$
$A = 1320\ m^2$

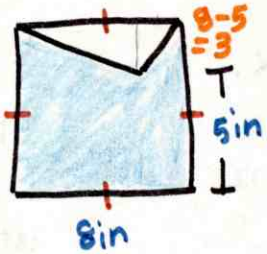
$26^2 = x^2 + 10^2$
$676 = x^2 + 100$
$576 = x^2$
$x = 24m$

$A(\triangle)$ $\quad \frac{24(10)}{2} = 120$

$A(\square)$ $\quad 40(24) = 960$

$A(\triangle)$ $\quad \frac{20(24)}{2} = 240$

27)

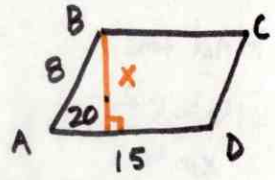


$A(\square) - A(\triangle)$
$64 - 12$
$A = 52\ in^2$

$A(\square)$ $\quad 8^2 = 64$

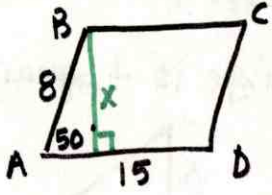
$A(\triangle)$ $\quad \frac{8(3)}{2} = 12$

32) In $\square ABCD$, base AD is 15 and AB is 8. What are the height and area of $\square ABCD$ if the $m\angle DAB$ is 20°? If $m\angle DAB$ is 50°?



$\sin(20) = \frac{x}{8}$
$x = 8(\sin(20))$
$x = 2.7$

$A = 15(2.7)$
$A = 40.5u^2$



$\sin(50) = \frac{x}{8}$
$x = 8(\sin(50))$
$x = 6.1$

$A = 15(6.1)$
$A = 91.5u^2$