MA 202 HW 7 Solutions

11.2.4 a) miles b) square feet c) square inches d) feet

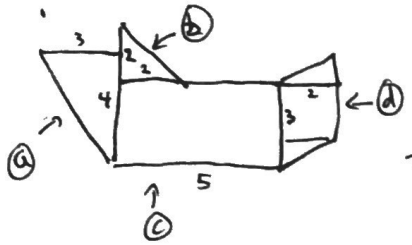
11.2.8 $P = 2.5 + 2.3 = 16$ units, $A = 5 \cdot 3 = 15$ units^2.

11.2.14 $b = 21$ ft, $h = 21$ ft, so $A = bh = 21^2 = \boxed{441 \text{ ft}^2}$

11.2.16 $b_1 = 5.5$ in, $b_2 = 14$ in, $h = 7$ in, so $A = \frac{1}{2}(b_1 + b_2)h = \frac{1}{2}(19.5)7 = \boxed{68.25 \text{ in}^2}$

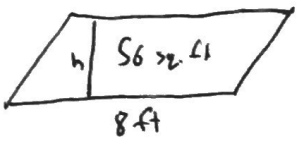
11.2.20 $a = 10.5$ ft, $h = 6$ ft, so $A = \frac{1}{2}ah = \frac{1}{2}(10.5)(6) = \boxed{31.5 \text{ ft}^2}$

11.2.22



Area of (a) $= \frac{1}{2} \cdot 3.4 = 6 \text{ in}^2$
Area of (b) $= \frac{1}{2} \cdot 2.2 = 2 \text{ in}^2$
Area of (c) $= 5 \cdot 3 = 15 \text{ in}^2$
Area of (d) $= 3 \cdot 2 = 6 \text{ in}^2$
Total area: $\boxed{29 \text{ in}^2}$

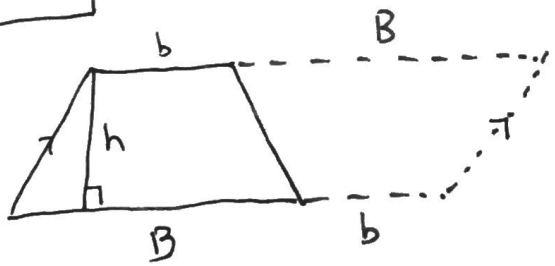
11.2.30



$h \cdot 8 = 56$
$\boxed{h = 7 \text{ ft}}$

11.2.34 In the formula for area of a ▱, the base and height need to be perpendicular.

11.2.36



Placing the dashed copy of the trapezoid gives a parallelogram of height h and base $b+B$.

The trapezoid's area is half of this, so:

$$\frac{1}{2}(b+B)h.$$