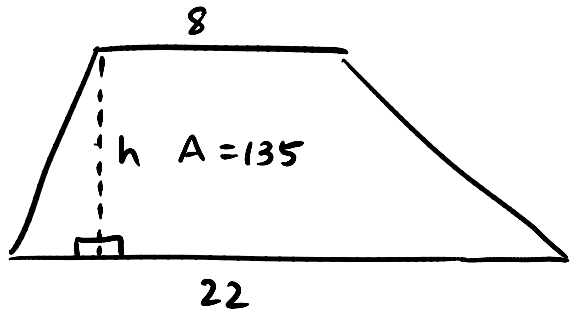
Sec 11.3
pgs. 525 - 526
#4, 5, 7, 8, 10

#4 Find the height



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

$135 = \frac{8+22}{2} \cdot h$

$135 = 15 \cdot h$

$\boxed{9 = h}$

#5 The height of a trapezoid is 10 and the trapezoids area is 130. If one base is 15, find the other base

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

$130 = \frac{b_1+15}{2} \cdot 10$

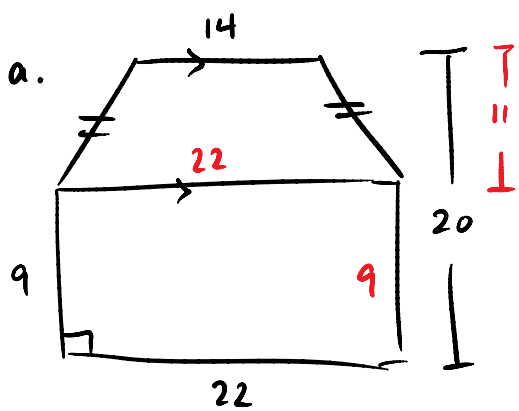
$260 = (b_1+15) \cdot 10$

$26 = b_1 + 15$

$\boxed{11 = b_1}$

#7 Find the total area

a.



$A_{trap} = \frac{14+22}{2} \cdot 11$

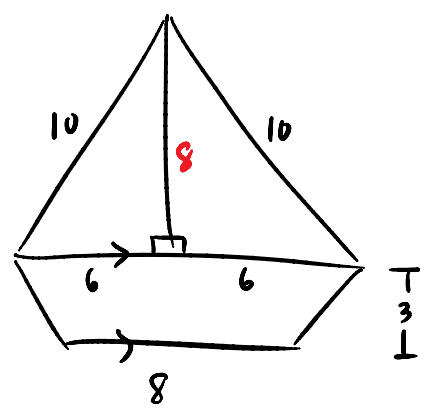
$= 198$

$A_{\square} = 9 \cdot 22$

$= 198$

$A_{total} = \boxed{396}$

b.



$\boxed{A_{total} = 78}$

$A_{\Delta} = \frac{12 \cdot 8}{2}$

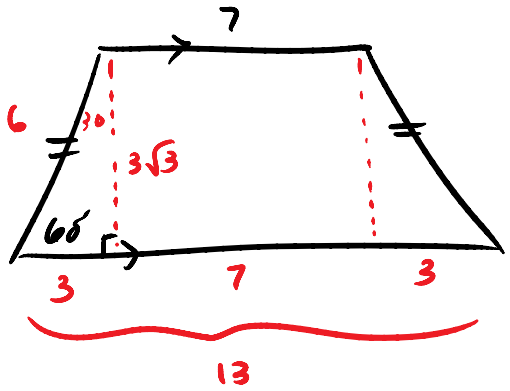
$= 48$

$A_{trap} = \frac{12+8}{2} \cdot 3$

$= 10 \cdot 3$

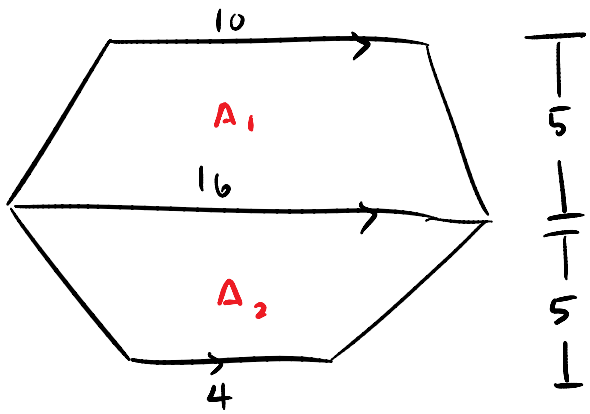
$= \boxed{30}$

#8 a.



$$A = \frac{13+7}{2} \cdot 3\sqrt{3}$$
$$= 10 \cdot 3\sqrt{3}$$
$$= \boxed{30\sqrt{3}}$$

b.

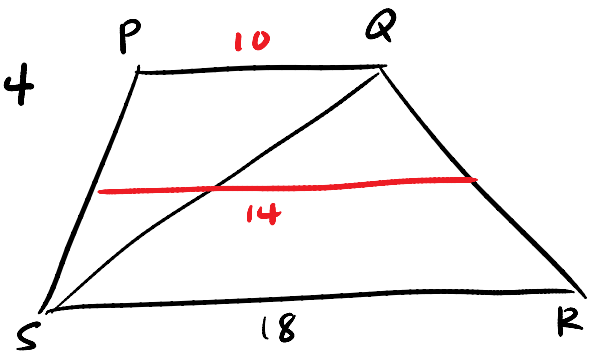


$$A_1 = \frac{10+16}{2} \cdot 5$$
$$= 65$$

$$A_2 = \frac{16+4}{2} \cdot 5$$
$$= 50$$

$$A_{total} = \boxed{115}$$

#10 The area of ΔPQS is 25.
The median of trapezoid PQRS is 14
Base $\overline{RS}$ measures 18



Find

a. PQ

$$\frac{x+18}{2} = 14$$
$$\boxed{x=10}$$

b. height of base $\overline{PQ}$ of ΔPQS

$$25 = \frac{10 \cdot h}{2}$$
$$\boxed{h=5}$$

c. height of trap.

$$\boxed{h=5}$$

d. Area of trap.

$$A = \frac{10+18}{2} \cdot 5$$
$$= \boxed{70}$$