Chapter 11 Measurement and Area

11.5 B Areas of Triangles and Trapezoids

Pages 601-606

NOTES (11.5) B Areas of Trapezoids

The 2 bases of a trapezoid are the lengths of the parallel sides.

The height of a trapezoid is the perpendicular distance between the bases.

Memorize!

Area of a trapezoid = $A=\frac{1}{2}(b_1 + b_2)h$

Guided Practice pp 604-606

Do # 10 like this

11) $A=\frac{1}{2}(b_1 + b_2)h$

$A=\frac{1}{2}(13+ 9)4$

$A=\frac{1}{2}(22)\,4$

$A = 11 \cdot 4$

$A = 44\ m^2$

#12 = 2pts

Do # 14 & 16 like this (& #24, 30)

11) $A = \frac{1}{2}(b_1 + b_2)h$

$180 = \frac{1}{2}(b_1 + 26)9$

$\frac{180}{9} = \frac{\frac{1}{2}(b_1 + 26)9}{9}$

$20 = \frac{1}{2}(b_1 + \frac{26}{2})$

$20 - 13 = \frac{1}{2}b_1 + 13 - 13$

$7 = \frac{1}{2}b_1$

$7 \cdot 2 = (\frac{1}{2}b_1)2$

$14 = b_1$ $\quad b_1 = 14$ ft

for #20, 34, & 36, find areas of individual "pieces" and add those totals

21) **triangle**

A= $\frac{1}{2}bh$

A= $\frac{1}{2}(23 \cdot 15)$

A= $\frac{1}{2}(345)$

A = 172.5 cm²

trapezoid

A= $\frac{1}{2}(b_1 + b_2)h$

A= $\frac{1}{2}(27 + 23)12$

A= 6(50)

A = 300 cm ²

```
 23
 15
---
115
230
---
345
```

```
    122.5
2 ) 345
    2
    --
    14
    14
    --
     05
      4
     --
      1
```

```
  172.5
  300.0
  -----
  472.5 cm²
```

Do # 26 like this

25) A= $\frac{1}{2}(b_1 + b_2)h$

$44 = \frac{1}{2}(x + x + 3)\ 8$

$44 = 4(2x + 3)$

$44 = 8x + 12$

$44 - 12 = 8x + 12 - 12$

$\frac{32}{8} = \frac{8x}{8}$

$32 \div 8 = x$

$4 = x$

$x = 4$ in