

Algebra I		
pg 114		
15) 90 cm	20) 15cm, 25cm, 30cm	25) 18cm, 9cm, 21cm
16) 70 cm	21) 14cm x 50cm	26) a) AB=30cm b) 300cm ² CD=20cm
17) 130 cm	22) 60cm, 62cm, 64cm	27) Theo: #22 Rudy: #6 Dmice: #17
18) 16cm x 23cm	23) 84°, 28°, 68°	28) Lisa: #18 Nara: #12 Chandra: #24
19) 17cm x 32cm	24) 92°, 46°, 42°	

17) In an isosceles triangle, there are two sides, called legs, with the same length. The third side is called the base. If an isosceles triangle has perimeter 345 cm and base length 85 cm, what is the length of each leg?

Let x = length of leg

$$x + x + 85 = 345$$

$$2x + 85 - 85 = 345 - 85$$

$$\frac{2x = 260}{2} = \frac{260}{2}$$

$$x = 130$$

{130}

18) The length of a rectangle is 7 cm more than the width. The perimeter is 78 cm. Find the rectangle's dimensions.

Let x = width

$$x + (x+7) + x + (x+7) = 78$$

$$4x + 14 = 78$$

19) The width of a rectangle is 15 cm less than the length. The perimeter is 98 cm. Find the rectangle's dimensions.

Let x = length

$x - 15$ = width

$$x + (x - 15) + x + (x - 15) = 98$$

$$4x - 30 = 98$$

20) The longest side of a triangle is twice as long as the shortest side and the remaining side is 25 cm. If the perimeter is 70 cm, find the lengths of the sides of the triangle.

Let x = shortest side

$$x + (2x) + 25 = 70$$

$$3x + 25 = 70$$

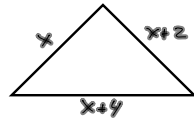
21) A rectangle's length is 8 cm more than three times its width. If the perimeter is 128 cm, find the length and the width.

- 22) A triangle has sides with lengths in centimeters that are consecutive even integers. Find the lengths if the perimeter is 186 cm.

Let $x = \text{smallest}$

$$x+2 = 2^{\text{nd}}$$

$$x+4 = 3^{\text{rd}}$$

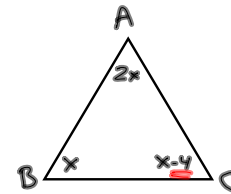


$$x + (x+2) + (x+4) = 186$$

- 24) In any triangle, the sum of the measures of the angles is 180° . In triangle ABC, angle A is twice as large as angle B. Angle B is 4° larger than angle C. Find the measure of each angle.

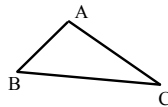
Let $x = m\angle B$
 $2x = m\angle A$
 $x - 4 = m\angle C$

$$x + (2x) + (x - 4) = 180$$



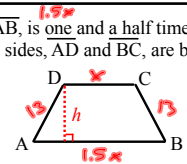
- 25) In $\triangle ABC$, \overline{AB} is 9 cm shorter than \overline{AC} , while \overline{BC} is 3 cm longer than \overline{AC} . If the perimeter of the triangle is 48 cm, find the lengths of the three sides.

Let $x = \overline{AC}$
 $x - 9 = \overline{AB}$
 $x + 3 = \overline{BC}$



- 26) In isosceles trapezoid ABCD, the longer base, \overline{AB} , is one and a half times as long as the shorter base, \overline{CD} . The other two sides, \overline{AD} and \overline{BC} , are both 13 cm long.

- a) If the perimeter is 76 cm, find the lengths of \overline{AB} and \overline{CD} .



- b) If the height of the trapezoid is 12 cm, find its area. $A = \frac{1}{2}h(b_1 + b_2)$

$$A = \frac{1}{2}(12)[1.5x + x]$$

use answer from a

- 27) Theo has \$5 more than Denise, and Denise has \$11 more than Rudy. Together they have \$45. How much money does each have?

- 28) Chandra has twice as much money as Nora. Nora has \$6 less than Lian. Together they have \$54. How much money does each have?