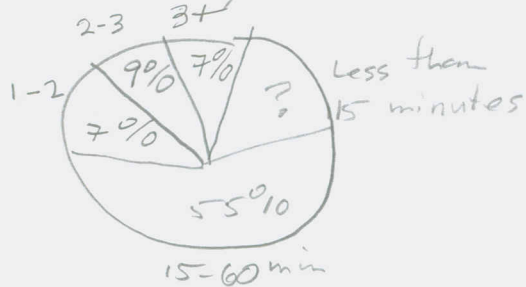


MAT 099 S2.2 #s 24, 29, 42, 49, 67

In #s 21-24 we're looking at a pie chart.

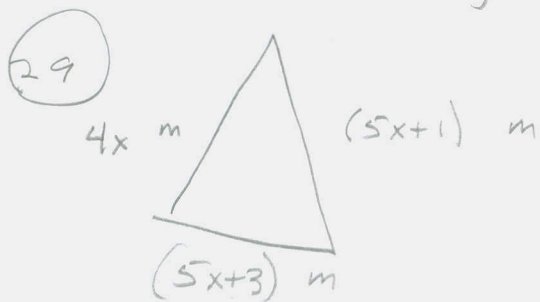


It gives the # of minutes people spend on e-mail each day.

24 If a large co. has 5957 workers, how many would use e-mail more than 3 hours per day (That's the "3+" in the chart.)?

$$7\% \text{ of } 5957 \text{ is } (.07)(5957) \\ = 416.99 \approx \boxed{417 \text{ people}}$$

#s 27-32 use diagram to find the unknowns.



GIVEN: Perimeter is 102 meters.

$$4x + 5x + 1 + 5x + 3 = 102 \\ 14x + 4 = 102 \\ 14x = 98$$

$$x = \frac{98}{14} = 7 \text{ meters.}$$

So, the lengths of the sides are

$$4x = 4(7) = \boxed{28 \text{ m}}, \\ 5x + 1 = 5(7) + 1 = 35 + 1 = \boxed{36 \text{ m}} \\ 5x + 3 = 35 + 3 = \boxed{38 \text{ m}}$$

(49) one angle is twice the measure of a 2nd angle
 The 3rd angle is three times the second angle,
 decreased by 12. AHHH. MY BRAIN-FLATULENCE PROBLEM.

Let $x = 2^{\text{nd}}$ angle (in degrees)

$y = 1^{\text{st}}$ " " " " " "

$z = 3^{\text{rd}}$ " " " " " "

Then $y = 2x$ and $x + y + z = 180$

$$z = 3x - 12$$

$$x + (2x) + (3x - 12) = 180$$

$$6x - 12 = 180$$

$$6x = 192$$

$$x = \frac{192}{6}$$

$$= 32^\circ = x$$

$$y = 2(32) = 64^\circ = y$$

$$z = 3(32) - 12 = 96 - 12 = 84^\circ = z$$

What threw me in class was my wanting
 to naturally let x be the 1st angle. And
 then, when the 3rd angle was in terms of
 the 2nd, I got brain-lock, because I
 wanted one equation in x .

MAT 099 \$2.2 #5 42,49,67

(3)

(42) The CA governor makes \$27,500 more than the NY gov., and \$120,724 more than AK gov. The sum of the 3 salaries is \$471,276. Find the salaries of each.

Let $x =$ CA gov. salary
 $y =$ NY " "
 $z =$ AK " "

Then $y = x - 27,500$
 $z = x - 120,724$

and $x + y + z = 471,276$. Ahhh.

$$x + (x - 27,500) + (x - 120,724) = 471,276$$

$$3x - 155,224 = 471,276$$

$$3x = 626,500$$

$$x = \frac{626,500}{3} = 208,833.\bar{3}$$

$$y = 208,833.\bar{3} - 27,500 = 181,333.\bar{3}$$

$$z = 208,833.\bar{3} - 120,724 = 81,109.\bar{3}$$

So, CA gov. makes about \$208,833.33
the NY " " " \$181,333.33
and the AK " " " \$81,109.33

MAT 099 § 2.2 #67

(4)

(67) The final Harry Potter book has 784 pgs.

This is a 154% increase over the previous.

How many pages in the previous?

Let x = the # of pages in the previous Potter book.

Then 154% of x is 784

$$1.54x = 784$$

$$x = \frac{784}{1.54} = 509.\overline{0909} \approx \boxed{509 \text{ pages}}$$

in the previous Potter book.