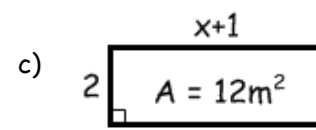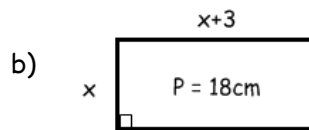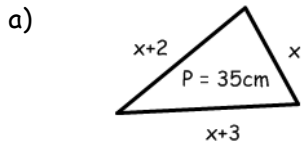# MTH 1W   2.10B Modelling with Algebra Homework Handout

1. There are two numbers. One number is 5 more than another number. Three times the larger number plus twice the smaller number is 30. Find the numbers.

2. The product of 3 and a number decreased by 5 is 27. What is it?

3. The sum of three consecutive whole numbers is 105. Find the numbers.

4. Find the length of each side.

a)

$x+2$ x
P = 35cm
$x+3$

b)

$x+3$
x P = 18cm

c)

$x+1$
2   A = 12m^2

5. The length of a rectangle is 5m more than its width. Its perimeter is 90m. What are the dimensions?

6. The maximum life span of a brown bear is 10 times the maximum life span of a mouse. The sum of their maximum life spans is 33 years. What is the life span of a mouse?

7. One of the equal sides of an isosceles triangle is 3 m less than twice its base. The perimeter is 44 m. Find the lengths of the sides.

8. The cost of a pen is 3 times the cost of a pencil. The cost of 4 pencils and 3 pens is $9.75. What is the cost of a pencil?

9. Sally has twice as many dimes as nickels. The total value is $3.50. How many nickels does she have?

10. Aretha has $0.85 in nickels and dimes. She has 2 more nickels than dimes. How many nickels and dimes does she have?

11. A box contains 140 dimes and nickels. The total value is $11.15. How many dimes are there?

12. Tickets to a concert cost $9.00 for adults and $6.50 for students. A total of 950 people paid $7675.00 to attend. How many students attended the concert?

13. The amount Jenny earned babysitting on the weekend is $1 less than one half of the amount that Peter earned. Together they earned $14. Find the amount each student earned.

14. Steve's father is 3 times as old as Steve. Steve's mother is 37. The sum of the three ages is 89. How old is each person?

15. Randy has 16 dimes more than triple the number of quarters that he has. He has 36 dimes and quarters altogether. How many of each coin does he have?

Answers:
1. 8, 3 **2**. 14 **3**. 34, 35, 36 **4.a)** 10m, 12m,13m **b)** 3m by 6m **c)** 2m by 6m **5**. 20m by 25m **6**. 3 years
7. 17m 17m 10m **8**. $0.75 **9**. 14 **10**. 7 nickels, 5 dimes **11**. 83 dimes **12**. 350 **13**. Peter $10, Jenny $4
14. Steve 13, Father 39, Mother 37 **15**. 5 quarters, 31 dimes