

Accuplacer Study Modules

TOPIC: Translating Words to Algebra

1. The value of a number is 4 more than the quantity 7 times x. Write an expression to represent the value of the number.

"4 more than" means add 4

"the quantity 7 times x" can be written as 7x

$7x + 4$

$7x + 4$  solution

2. It took Mark 5 hours to drive from his college to his home. The next week he drove the same distance from his home back to his college in 4 hours. If the average rate for his first trip was r miles per hour, what was the average rate for the second trip, in terms of r?

\* Remember, Distance = rate  $\cdot$  time \*

r = rate driven week one

let k = rate driven week two

Distance = 5r (week one)

Distance = 4k (week two)

\* set the expressions equal and solve for k \*

$\frac{4k}{4} = \frac{5r}{4} \Rightarrow k = \frac{5r}{4}$  or  $\frac{5}{4}r$  solution

3. A plumber charges a home visit fee of \$50 plus a \$25 per hour for repair work. Write an algebraic expression to represent the total cost for a home repair that takes h hours.

"\$50 plus" means add 50

"\$25 per hour" can be written as 25h

$25h + 50$

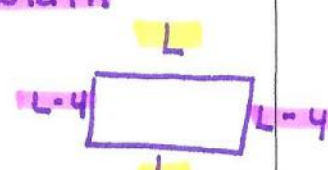
$25h + 50$  solution

4. The width of a rectangular garden is 4 less than the length of the garden. Let L represent the length of the garden. Write an expression to represent the perimeter of the garden.

\* Perimeter of a rectangle is 2  $\cdot$  length + 2  $\cdot$  width

Length = L

width = L - 4



$P = 2L + 2(L - 4)$  (Distribute)

$P = 2L + 2L - 8$  (combine like terms)

$P = 4L - 8$  solution