

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 *

solution

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

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

$25h + 50$

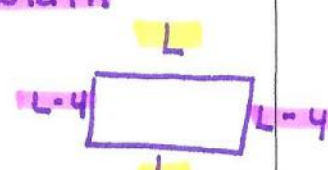
$25h + 50$ solution

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 $2 \cdot \text{length} + 2 \cdot \text{width}$

Length = L

width = $L - 4$



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

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

$P = 4L - 8$ solution