Topic: Word problems into equations

Question: Write the phrase as an algebraic expression.

"three less than twice x"

Answer choices:

A $3 - 2x$

B $2x - 3$

C $2x + x - 3$

D $3 - 2x \cdot x$

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Solution: B

The phrase we need to write with algebra is

"three less than twice x"

We know that "twice x" means "2 times x", and we can write it as $2x$. So now we can say that we're looking for

"three less than $2x$"

Therefore, the expression we're looking for is

$$2x - 3$$

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Topic: Word problems into equations

Question: Find the value of the expression.

$\frac{3}{4}$ of 200

Answer choices:

A 170

B 200

C 150

D $\frac{4}{3}$

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Solution: C

When we're turning a phrase into a mathematical expression or equation, the word "of" immediately after a fraction tells us to multiply. Therefore,

$$\frac{3}{4}(200)$$

$$\frac{3(200)}{4}$$

$$\frac{600}{4}$$

$$150$$

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Topic: Word problems into equations

Question: Four times a number, decreased by 8, is 92. Find the number.

Answer choices:

A -25

B 20

C 100

D 25

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Solution: D

When we're turning a phrase into a mathematical expression or equation, the word "times" tells us to multiply. The word "decreased" tells us to subtract, and the word "is" means equals. Therefore, the equation will be

$$4x - 8 = 92$$

Use inverse operations to solve for the number.

$$4x - 8 + 8 = 92 + 8$$

$$4x = 100$$

$$\frac{4x}{4} = \frac{100}{4}$$

$$x = 25$$

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