Using Equations to Solve Problems

Make up an equation for each problem. Then solve the equation to get the answer.

"I'm thinking of a number. If you multiply it by 6 and then add 7, you will get 55. What is my number?"

Equation: $6x + x^{-x} = 55^{-7}$

$$6x = 48$$
$$x = 8$$

Answer: 8

"I'm thinking of a number. If you multiply it by 4 and then add 13, you will get 37. What is my number?"

Equation:

Answer:

"I'm thinking of a number. If you multiply it by 8 and then add 17, you will get 33. What is my number?"

Equation:

Answer:

"I'm thinking of a number. If you multiply it by 5 and then take away 7, you will get 53. What is my number?"

Equation:

Answer:

"I'm thinking of a number. If you multiply it by 8 and then subtract 13, you will get 43. What is my number?"
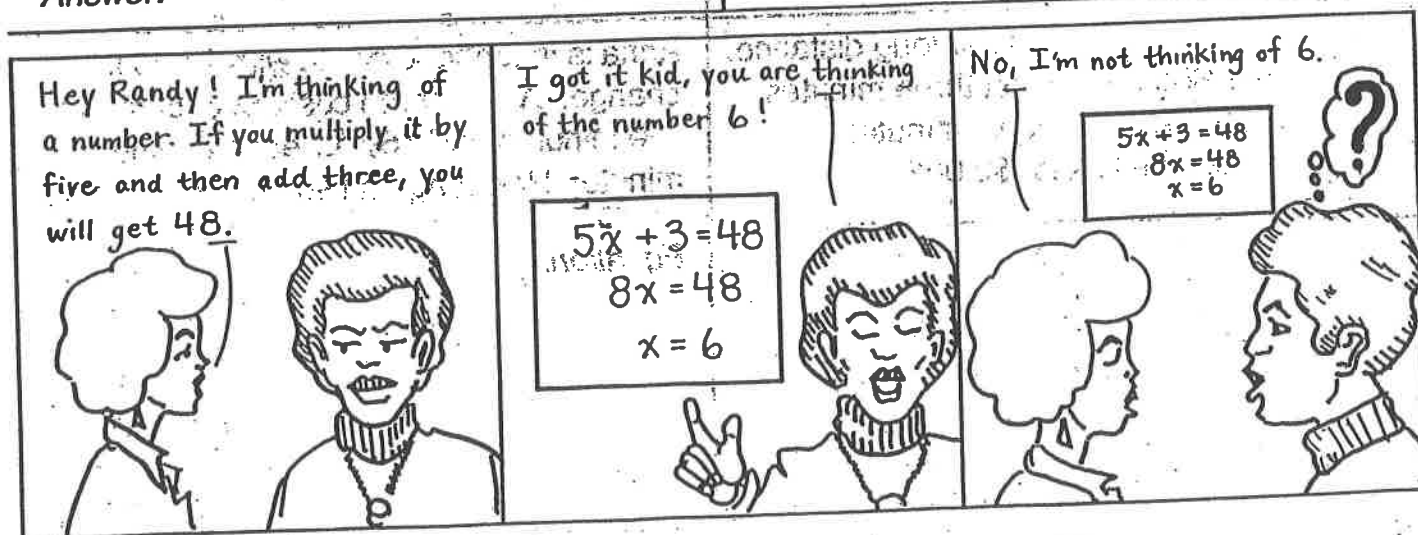
Equation:

Answer:

"I'm thinking of a number. If you multiply it by 5 and then subtract 24, you will get the number I am thinking of. What is my number?"

Equation:

Answer:

Hey Randy! I'm thinking of a number. If you multiply it by five and then add three, you will get 48.

I got it kid, you are thinking of the number 6!

$$5x + 3 = 48$$
$$8x = 48$$
$$x = 6$$

No, I'm not thinking of 6.

$$5x + 3 = 48$$
$$8x = 48$$
$$x = 6$$

Do *you* know what number Debra was thinking of? Can you prove it?