

p. 108 # 11

The relation between the temperature measured on the Celsius scale C and the Fahrenheit scale F is defined by the equation $C = \frac{5}{9}(F - 32)$.

a) What temperature is expressed by the same number on both scales? $C = F$

b) The measure of a certain temperature in Fahrenheit is 10 less than its measures in Celsius. What is this temperature in Fahrenheit and in Celsius?

$$y = \frac{5}{9}(x - 32)$$

$$y = x$$

$$F = \frac{5}{9}(F - 32)$$

$$C = F$$

$$C = \frac{5}{9}(F - 32)$$

$$1 F = \left(\frac{5}{9}\right) F - \frac{160}{9}$$

$$\frac{4}{9} F = -\frac{160}{9}$$

$$F = \frac{-160 \cancel{9}}{\cancel{9} \cdot 4} = -40 = C$$

$$F = 0.55 \dots$$

$$F - 0.55 F$$

$$0.45 F$$

b) $F = C - 10$

$$C = F + 10$$

$$C = \frac{5}{9}(F - 32)$$

$$C = \frac{5}{9}(C - 10 - 32)$$

$$C = \frac{5}{9}(C - 42)$$

$$F = C - 10$$

$$C = \frac{5}{9}C - \frac{210}{9}$$

$$F = -57.5 - 10$$

$$= -67.5$$

$$\frac{4}{9}C = -\frac{210}{9}$$

$$C = \frac{-210 \cancel{9}}{\cancel{9} \cdot 4} = -52.5$$

Solving Systems from Word Problems

1. Read and highlight key information.
2. Identify and represent the unknowns as variables.
3. Construct the equations and solve.

p. 110 # 17. \rightarrow average

The mean of two positive numbers is equal to their difference. Three times this difference is equal to twice the value of the larger of the two numbers. What can you conclude about these two numbers?

$$\textcircled{1} \frac{x+y}{2} = (x-y)$$

x - bigger
 y smaller

$$\textcircled{2} 3(x-y) = 2x$$

$$3x - 3y = 2x$$

$$x = 3y$$

$$x+y = 2(x-y)$$

$$x+y = 2x - 2y$$

$$3y = x$$

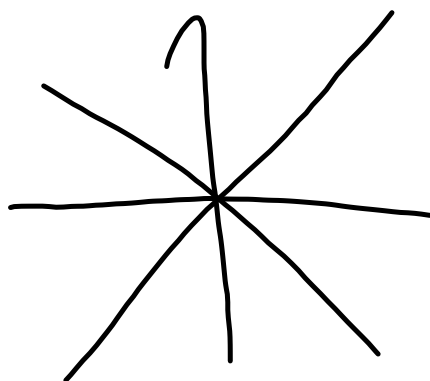
Quiz: 4 ways of solving systems:

graphing,

comparison,

substitution,

elimination



When is there no solution? *parallel*

When are there infinite solutions? *same*