At Trophies-R-Us costs $12.50, and engraving costs $0.40 per letter. At Best Trophies, the same trophy costs $14.75 and engraving costs $0.25.

Write an equation AND show all work to find how many engraved letters, ***e***, must be engraved for the costs to be the same?

Your Answer:

Question: What is engraved letters, e?

Solve: Trophies R Us: = Best Trophies:

12.50 + 0.40e = 14.75 + 0.25e

- 0.25e = - 0.25e

---------- subtract 0.25e from both sides

12.50 + 0.15e = 14.75

-12.50 -12.50

---------- subtract 12.50 from both sides

0.15e = 2.25

---------- Multiply by 100 to clear decimal

15 e = 225

---------- Divide both sides by 15

e = 15

Solution: 15 letters must be engraved for the costs to be the same.

12.50 + (0.40)(15) =? 14.75 + (0.25)(15)

12.50 + 6.0 =? 14.75 + 3.75

18.50 = 18.50

Solution checked.

-12.50 -12.50

---------- subtract 12.50 from both sides

0.15e = 2.25

---------- Multiply by 100 to clear decimal

15 e = 225

---------- Divide both sides by 15

e = 15

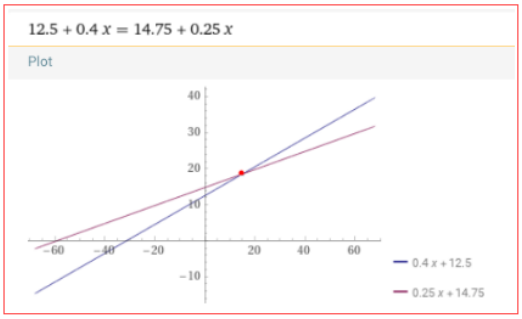
Solution: 15 letters must be engraved for the costs to be the same.

12.50 + (0.40)(15) =? 14.75 + (0.25)(15)

12.50 + 6.0 =? 14.75 + 3.75

18.50 = 18.50

Solution checked.



Bill weighs 120 pounds and is gaining 10 pounds each month. Phil weighs 150 pounds and is gaining 4 pounds each month.

Write an equation AND show all work to find how many months, ***m***, will it take for Bill to weigh the same as Phil.

Your Answer:

UNDERSTAND: Find m, months for Bill to weigh the same as Phil

PLAN Bill = Phil

120 + 10m = 150 + 4m

SOLVE

120 + 10m = 150 + 4m

- 4m = -4m

---------- Subtract 4m from both sides

120 + 6m = 150

-120 = -120

---------- Subtract 120 from both sides

6m = 30

========== Divide both sides by 6

m = 5

========== SOLUTION m = 5

CHECK

120 + 10m = 150 + 4m

120 + 10(5) =? 150 + 4(5)

120 + 50 =? 150 + 20

m = 5

========== SOLUTION m = 5

CHECK

120 + 10m = 150 + 4m

120 + 10(5) =? 150 + 4(5)

120 + 50 =? 150 + 20

170 = 170

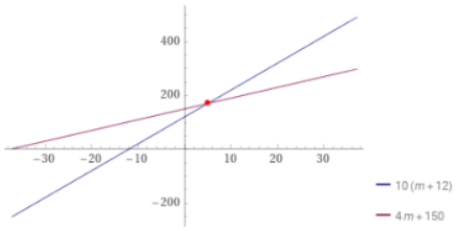
Solution checked.

In m=5 months, Bill and Phil will both weigh 170 pounds.

Input

$120 + 10\,m = 150 + 4\,m$

Plot



Solution

$m = 5$