

Lesson 10: Solving + Foreign Currency Q.

Definition
an arithmetic expression:

a statement w #s and operations

$$2 + 4$$

an equation:
 2 expressions that are equal (=)

$$\underbrace{2 + 4}_{\text{left side}} = \underbrace{3 + 3}_{\text{right side}}$$

★ what you do to one side, you must do the exact same thing to the (whole) side.

Solving :
Solve

→ "find the value of "x" that makes a balanced equal statement".

$$x + 1 = 4 - 1$$

$$x = 3$$

$$x = 3$$

Solving steps.
i. isolate "x" by performing opposite operations to both sides.

"x" - unknown

+ -
x 0

Solve $8 = x + 2$

$$6 = x$$

$$x = 6$$

Solve: $\frac{t}{2} \times 2 = \frac{8}{2}$

$$t = 4$$

Solve

$$\frac{21}{-7} = \frac{-7 \times n}{-7}$$

$$-3 = n$$

Solve.

$$8 \times \left(\frac{v}{8} \right) = 2 \times 8$$

$$v = 16$$

Conversion :

1.5 hrs = 90 mins

equivalent
- same thing
- different form

Convert 1.5 hrs to mins.

$$\frac{1.5 \text{ hrs}}{1 \text{ hr}} = \frac{x \text{ mins}}{60 \text{ mins}}$$

$$60(1.5) = \left(\frac{x}{60}\right)60$$

$$90 \text{ mins} = x$$

Convert

- Q1 0.5 hrs to minutes
- Q2 180 mins to hours
- Q3 135 mins to hrs

Step i. Construct
Unknown Equivalent
Equation (UEE)

Step ii identify/construct
conversion rate equation.
(hrs/min) (CRE)
60 mins = 1 hrs

Step iii Put CRE under
UEE (same units on top
of same units)

Step iv: solve w o.o.

Question:

Convert 135 mins to hrs.

$$\frac{135 \text{ mins}}{60 \text{ mins}} = \frac{x \text{ hrs}}{1 \text{ hrs}}$$

$$2.25 \text{ hrs} = x \text{ hrs}$$

$$2 \frac{1}{4} \text{ hrs} = x$$

$$2 \text{ hr } 15 \text{ mins} = x$$

$$1 \text{ hr} = 60 \text{ mins}$$

↑
conversion
rate equation

<u>Currency:</u> CAD / EGP	<u>Rate:</u> 12.24
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USD
GBP
YEN

∴ 1 CAD = 12.24 EGP ← Conversion rate equation

How much will 425 \$CAD get you in EGP?

$$\frac{425 \text{ CAD}}{1 \text{ CAD}} = \frac{x \text{ EGP}}{12.24 \text{ EGP}}$$

$$12.24 \left(\frac{425}{1} \right) = \left(\frac{x}{12.24} \right) \cancel{12.24}$$

. Solve for x
. isolate x

$$5202 \text{ EGP} = x$$

∴ \$425 CAD will get you 5202 EGP.

0.2.
P P e
P e r
s a
+ i
e
t
s
n
s