

10.3 Key Concepts 1 Isolating Variables in a Formula Worked Example

Example: The formula for the pay for a flight instructor at the Port Colborne Flying Club is $P = 12g + 35f$. Isolate f .

Solution: Subtract $12g$ from both sides. Then, divide by 35.

$$\begin{aligned}P &= 12g + 35f \\P - 12g &= 12g + 35f - 12g \\P - 12g &= 35f \\35f &= P - 12g \\\frac{35f}{35} &= \frac{P - 12g}{35} \\f &= \frac{P - 12g}{35}\end{aligned}$$

Practice:

1. The formula for the yearly cost of operating a car is $C = 0.42d + I + R$. Isolate R .

2. The formula for the number of minutes of music that can be stored on a CD is

$$m = \frac{C}{f}. \text{ Isolate } f.$$

Answers: 1. $R = C - 0.42d - I$, 2. $f = \frac{C}{m}$