

## SOLVING EQUATIONS: APPLICATION QUESTIONS

### Examples

1. The formula for aircraft speed is  $s = \frac{d}{t}$ , where  $s$  is the speed in km/h,  $d$  is the distance travelled in km, and  $t$  is the time in hours. Find the distance travelled by an aircraft cruising at a speed of 428 km/h for 1.5 h.
2. The cost,  $C$  dollars, to produce a school yearbook is given by the equation  $C = 8000 + 9n$ , where  $n$  is the number of yearbooks printed.
  - a. What will it cost to produce 1 500 yearbooks?
  - b. How many yearbooks can be produced for \$20 000?
3. The formula below shows how the amount of simple interest,  $I$ , earned on an investment is related to the amount invested (also called the principal) in dollars,  $P$ , the interest rate,  $r$ , and the time,  $t$ , of the investment in years.

$$I = Prt$$

If Coby deposits \$400 into a savings account that pays simple interest at a rate 2% per year. How long will it take Coby to earn \$70 in interest?

4. Liam and Hayden leave class at the same time and walk in opposite directions. Liam walks 0.25m/s faster than Hayden does. After 10 seconds they are 29.3 meters apart. How fast is each person walking?
5. The equation  $s = \frac{w-10e}{t}$  models the speed in words per minute,  $s$ , at which someone types. The speed,  $s$ , is related to the number of words typed,  $w$ , the number of errors,  $e$ , and the time spent typing in minutes,  $t$ .
- If Morgan types 400 words in 5 min, with 8 errors. What is her typing speed.
  - Austin's typing speed is 125 word/minute, and he types 1100 words in 8 min. How many errors did Austin make?