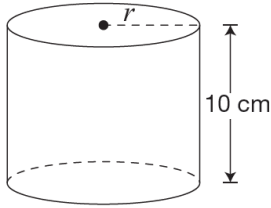


## Review and EQAO Practice for Chapter 4 – Equations

# 2017

- 2** The cylinder pictured below has a volume of  $500 \text{ cm}^3$  and a height of 10 cm.



Which of the following represents the radius of the cylinder,  $r$ , in centimetres?

**Hint:**

$$V = \pi r^2 h$$

- a  $\sqrt{\frac{50}{\pi}}$
- b  $\frac{\sqrt{50}}{\pi}$
- c  $\frac{50}{\pi}$
- d  $\frac{50}{2\pi}$
- 4** The equation below can be used to convert between temperatures in degrees Celsius,  $C$ , and temperatures in degrees Fahrenheit,  $F$ .

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

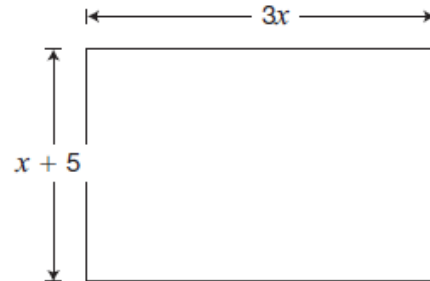
Which correctly completes the statement?

If the temperature in degrees Celsius is 15, the temperature in degrees Fahrenheit is

- a less than 0.
- b greater than 60.
- c between 20 and 40.
- d between 40 and 60.

# 2015

- 3** A rectangle is shown below with algebraic expressions for its length and width in centimetres.



Which expression represents the area of the rectangle in  $\text{cm}^2$ ?

- a  $4x + 5$
- b  $8x + 10$
- c  $3x^2 + 5$
- d  $3x^2 + 15x$
- 4** What is the solution to the equation below?

$$\frac{2}{3}x - 4 = 20$$

- a  $x = 12$
- b  $x = 16$
- c  $x = 24$
- d  $x = 36$

**Practice rearranging the equation:** do not solve using guess and check

# 2014

**5** What is the value of  $x$  in the equation

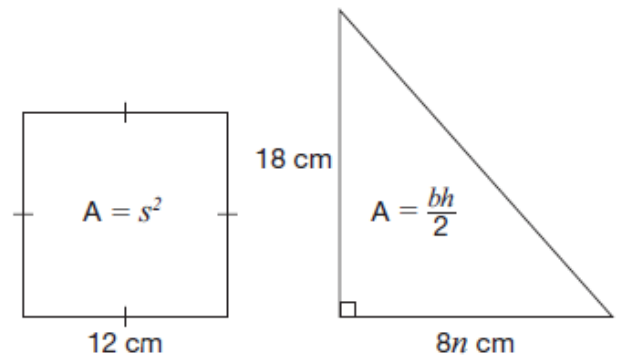
$$-4(2x - 1) = 36?$$

- a  $-4$
- b  $-\frac{35}{8}$
- c  $-\frac{37}{8}$
- d  $-5$

**Practice rearranging the equation:** do not solve using guess and check

# 2013

**5** The square and the triangle below have the same area.



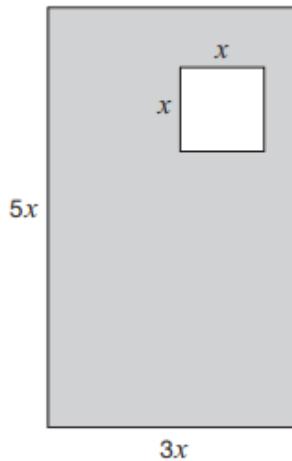
What is the value of  $n$ ?

- a 1
- b 2
- c 8
- d 16

# 2018

**8 Square Removed**

This rectangle has a square removed. There are algebraic expressions for the sides, in centimetres.



The area of the rectangle without the square is  $126 \text{ cm}^2$ .

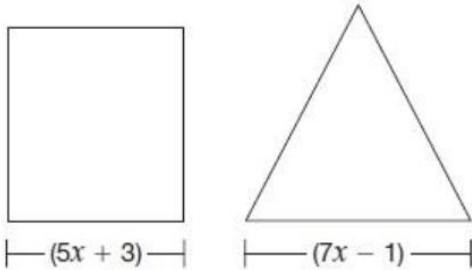
Determine the side length of the square,  $x$ , in centimetres.

Show your work.

## Review and EQAO Practice for Chapter 4 – Equations PART 2

### Questions from EQAO 2012 and older

- 27** A square and an equilateral triangle are pictured below.



If the square and the triangle have the same perimeter, what is the value of  $x$ ?

- a 2
- b 4
- c 9
- d 15

- 33** Bob is thinking of a number. He adds 15 to his number and finds that the result is four times his number.



Suppose  $x$  is Bob's number. Which equation is always true?

- a  $15 - x = \frac{x}{2}$
  - b  $15 - x = 4x$
  - c  $x + 15 = \frac{x}{4}$
  - d  $x + 15 = 4x$
- 7** The equation  $d = 3.6 \times \sqrt{h}$  represents the relationship between the distance,  $d$ , that a person can see in an open field, in kilometres, and the person's height,  $h$ , in metres.
- One afternoon, Amy can see a distance of 4.5 km.
- Which of the following is closest to Amy's height?
- a 1.1 m
  - b 1.6 m
  - c 2.1 m
  - d 2.5 m

**Practice rearranging the equation:** do not solve using guess and check

**46****Disc-ussion**

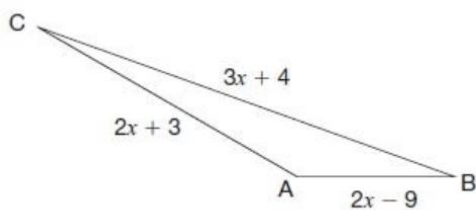
Tyler, Raven and Deb are discussing the number of CDs they each own. They find that the following statements are true:

- Tyler owns five more than twice the number of CDs Raven owns.
- Deb owns three times as many CDs as Tyler.

Using  $x$  to represent the number of CDs Raven owns, write an expression for the total number of CDs the three friends own. Show your work and simplify your answer.

**47****What Side?**

The perimeter of the triangle below is 75 m.



Determine the measure of each side of the triangle.

Show your work.

Kyle isolates the variable  $w$  by performing the following steps on a test. On which step did he make an error?

**GIVEN:**  $P = 2(l + w)$

**STEP 1:**  $P = 2l + 2w$

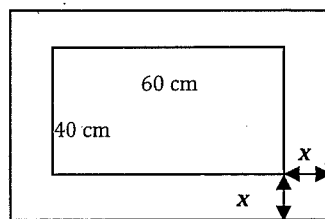
**STEP 2:**  $P + 2l = 2w$

**STEP 3:**  $\frac{P + 2l}{2} = \frac{2w}{2}$

**STEP 4:**  $\frac{P}{2} + l = w$

- a) Step 1      b) Step 2      c) Step 3      d) Step 4

A rectangular portrait measures 40 cm wide by 60 cm in height. A frame that surrounds the portrait is  $x$  cm in thickness. If the perimeter of the outside of the frame is 256 cm. What is the thickness of the frame?



- a) 56 cm      b) 7 cm      c) 14 cm      d) 28 cm