

# EXPRESSIONS

. Regina charges  $c$  dollars per hour to babysit. If she increases her rate by 15%, which expression represents her new rate, in dollars per hour?

A.  $c + 0.15$

B.  $c + 15$

C.  $c + 0.15c$

D.  $c + 15c$

A farmer grew  $x$  pounds of rice last year. This year, she grew 8% more rice than she grew last year. Which expression represents the number of pounds of rice that the farmer grew this year?

- A.  $0.08x$
- B.  $1.08x$
- C.  $1.8x$
- D.  $8x$

A car is traveling at a speed of  $y$  miles per hour. Which situation would be described by the expression  $1.2y$ ?

- A. the speed of the car after it is increased by 2%
- B. the speed of the car after it is increased by 20%
- C. the speed of the car after it is increased by 0.2 miles per hour
- D. the speed of the car after it is increased by 2.0 miles per hour

A computer store sells computers for 10% more than they pay for them. If the store pays  $x$  dollars for a computer, which expression would represent the price for which the store would sell the computer?

A.  $0.10x$

B.  $0.9x$

C.  $1.1x$

D.  $10x$

Which expression is equivalent to  $m - 0.25m$ ?

- A. 0.25 times  $m$
- B. 0.75 times  $m$
- C. 0.25 less than  $m$
- D. 0.75 less than  $m$

Which expression represents that  $x$  was doubled and then decreased by 25%?

A.  $2x - 0.25x$

B.  $0.25x - 2x$

C.  $2(x - 0.25x)$

D.  $2x - (2x - 0.25x)$

What is the sum of the two expressions?

$$\left(\frac{2}{5}x + 3\right) + \left(\frac{1}{5}x - 1\right)$$

First group your like terms, then simplify.

$$\left(\frac{2}{5}x + \frac{1}{5}x\right) + [3 + (-1)]$$

$$= \frac{3}{5}x + 2$$



Find the difference of the two expressions.

$$\left(\frac{2}{5}x + 5\right) - \left(\frac{1}{5}x - 3\right)$$

**First group the like terms**

$$\left(\frac{2}{5}x - \frac{1}{5}x\right) + [5 - (-3)]$$

$$= \frac{1}{5}x + 8$$

An expression is shown.

$$2\left(\frac{3}{5}x + 3\right) - \left(\frac{2}{3}x - 1\right)$$

Create an equivalent expression without parentheses.

First perform the distributive property on the first parentheses

$$2\left(\frac{3}{5}x + 3\right) = \left(\frac{2}{1} \cdot \frac{3}{5}x\right) + (2 \cdot 3) = \frac{6}{5}x + 6$$

Next perform the operation on the second parentheses. Remember a negative sign outside the parentheses, changes the sign of terms inside the parentheses.

$$-\left(\frac{2}{3}x - 1\right) = -\frac{2}{3}x + 1 \quad \text{Then combine the two answers.}$$

$$\begin{aligned} \left(\frac{6}{5}x + 6\right) + \left(-\frac{2}{3}x + 1\right) &= \left[\frac{6}{5}x + \left(-\frac{2}{3}x\right)\right] + (6 + 1) \\ &= \frac{8}{15}x + 7 \end{aligned}$$