## Get better at Math. Get better at everything.

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1) $-10 x+4 x=$ $\qquad$
2) $-2 k+17-4 k=$ $\qquad$
3) $16-3(4 n+7)=$ $\qquad$
4) Charlotte age is 15 years more than twice the sum of her son's age (in years) and 3 . Find her age by combining like terms if her son's age is represented by $x$.

5) $\frac{y}{8}+3(y-2)=$ $\qquad$
6) $\left(\frac{3}{5} x-7\right)+(2 x-5)+\left(-\frac{2}{5} x-7\right)=$
7) The length of a rectangular dining table is 3 ft more than twice its width. Find its perimeter in terms of its width.
Assume that the width of the table is w ft .

8) Find the perimeter of the following rectangle by combining like terms.

9) The perimeter of a triangle is $3 x^{2}+2$ units and its two sides are given in the following figure. Find its third side.

?
10) Find the value of

$$
\left[\left(-3 m^{2}-4 m+7\right)+\left(-5 m^{2}+5 m-9\right)\right]-(7 m+8) \text { by combining }
$$ the like terms.

# When you learn math in an interesting way, you never forget. 

## 25 Million

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100K+
Students learning Math the right way

## 20+Countries

Present across USA, UK, Singapore, India, UAE \& more.

## Why choose Cuemath?

"Cuemath is a valuable addition to our family. We love solving puzzle cards. My daughter is now visualizing maths and solving problems effectively!"
"Cuemath is great because my son has a one-on-one interaction with the teacher. The instructor has developed his confidence and I can see progress in his work. One-on-one interaction is perfect and a great bonus."
"I appreciate the effort that miss Nitya puts in to help my daughter understand the best methods and to explain why she got a problem incorrect.
She is extremely patient and generous with Miranda."

## ANSWERS

| 1$)$ | $-6 x$ |
| :--- | :--- |
| 2$)$ | $-6 k+17$ |
| 3$)$ | $-12 n-5$ |
| 4$)$ | $\frac{25 x}{8}-6$ |
| 5$)$ | $\frac{11}{5} x-19$ |
| 6$)$ | $(6 w+5) \mathrm{ft}$ |
| 7$)$ | $-2 x^{2}-x+5$ |
| 8$)$ | $-8 m^{2}-6 m-10$ |
| 9$)$ |  |
| 10$)$ |  |

## Solutions:

1. $-10 x+4 x=$ $\qquad$
Solution:
$-10 x+4 x=(-10+4) x=-6 x$
2. $-2 k+17-4 k=$ $\qquad$
Solution:
$-2 k+17-4 k=(-2 k-4 k)+17=-6 k+17$
3. $16-3(4 n+7)=$ $\qquad$
Solution:
$16-3(4 n+7)=16-12 n-21=-12 n-5$
4. Charlotte age is 15 years more than twice the sum of her son's age (in years) and 3 . Find her age by combining like terms if her son's age is represented by $x$.

Solution:

Charlotte's age $=15+2(x+3)=15+2 x+6=2 x+21$.
5. $\frac{y}{8}+3(y-2)=$

Solution:
$\frac{y}{8}+3(y-2)=\frac{y}{8}+3 y-6=\frac{25 y}{8}-6$
6. $\left(\frac{3}{5} x-7\right)+(2 x-5)+\left(-\frac{2}{5} x-7\right)=$

Solution:

$$
\begin{aligned}
& \left(\frac{3}{5} x-7\right)+(2 x-5)+\left(-\frac{2}{5} x-7\right) \\
& =\left(\frac{3}{5} x+2 x-\frac{2}{5} x\right)+(-7-5-7) \\
& =\frac{11}{5} x-19
\end{aligned}
$$

7. The length of a rectangular dining table is 3 ft more than twice its width. Find its perimeter in terms of its width. Assume that the width of the table is w ft .

Solution:

The width of the table $=\mathrm{wft}$.
The length of the table, $1=2 \mathrm{w}+3 \mathrm{ft}$.
The perimeter is,

$$
\begin{aligned}
21+2 w & =2(2 w+3)+2 w \\
& =4 w+6+2 w \\
& =(6 w+6) f t
\end{aligned}
$$

Thus, the perimeter of the table $=(6 w+5) \mathrm{ft}$.
8. Find the perimeter of the following rectangle by combining like terms.


$$
4 m+5
$$

## Solution:

The length of the rectangle is $\mathrm{I}=4 \mathrm{~m}+5$
The width of the rectangle is $w=2 m-1$
The perimeter is,

$$
\begin{aligned}
2(l+w) & =2(4 m+5+2 m-1) \\
& =2(6 m+4) \\
& =12 m+8
\end{aligned}
$$

9. The perimeter of a triangle is $3 x^{2}+2$ units and its two sides are given in the following figure. Find its third side.


Solution:

To find the third side, it is sufficient to subtract the sum of the two given sides from the perimeter.
$\left(3 x^{2}+2\right)-\left[\left(2 x^{2}+x\right)+\left(3 x^{2}-3\right)\right]$
$=\left(3 x^{2}+2\right)-\left(5 x^{2}+x-3\right)$
$=3 x^{2}+2-5 x^{2}-x+3$
$=-2 x^{2}-x+5$
10. Find the value of
$\left[\left(-3 m^{2}-4 m+7\right)+\left(-5 m^{2}+5 m-9\right)\right]-(7 m+8)$ by combining the like terms.

Solution:

$$
\begin{aligned}
& {\left[\left(-3 m^{2}-4 m+7\right)+\left(-5 m^{2}+5 m-9\right)\right]-(7 m+8)} \\
& =\left(-8 m^{2}+m-2\right)-(7 m+8) \\
& =-8 m^{2}+m-2-7 m-8 \\
& =-8 m^{2}-6 m-10
\end{aligned}
$$

## FUN FACT

1. The variable(s) parts of like terms are the same.
2. For example, $3 x y z$ and $-4 x y z$ are like terms.
3. For adding or subtracting two or more terms, they must be like terms. For example, we cannot add (or simplify) $2 x+2$ further as $2 x$ and 2 are NOT like terms.
4. To add or subtract like terms, we will just add or subtract their coefficients.
