

Algebra Word Problems Worksheets

1. Kevin is currently twice as old as his brother. If Kevin was 8 years old 2 years ago, how old is Kevin's brother now?

2. Shelby is seven times as old as Bonnie. If in 5 years, the sum of Bonnie's and Shelby's ages is 98, find Bonnie's present age.

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1. Kevin is currently twice as old as his brother. If Kevin was 8 years old 2 years ago, how old is Kevin's brother now?

If we let b represent Kevin's brother's age in years, then Kevin's age in years is $2b$.

$$\begin{aligned}2b - 2 &= 8 \\2b - 2 + 2 &= 8 + 2 \\2b &= 10 \\ \left(\frac{1}{2}\right)(2b) &= \left(\frac{1}{2}\right)(10) \\b &= 5\end{aligned}$$

Kevin's brother is currently 5 years old.

2. Shelby is seven times as old as Bonnie. If in 5 years, the sum of Bonnie's and Shelby's ages is 98, find Bonnie's present age.

	<i>Present Age (in years)</i>	<i>Future Age (in years)</i>
<i>Bonnie</i>	x	$x + 5$
<i>Shelby</i>	$7x$	$7x + 5$

$$\begin{aligned}x + 5 + 7x + 5 &= 98 \\8x + 10 &= 98 \\8x + 10 - 10 &= 98 - 10 \\8x &= 88 \\ \left(\frac{1}{8}\right)(8x) &= \left(\frac{1}{8}\right)(88) \\x &= 11\end{aligned}$$

Bonnie's present age is 11 years old.

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3. Michael is 17 years older than John. In 4 years, the sum of their ages will be 49. Find Michael's present age.

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3. Michael is 17 years older than John. In 4 years, the sum of their ages will be 49. Find Michael's present age.

x represents Michael's age now in years.

	<i>Now</i>	<i>4 years later</i>
<i>Michael</i>	x	$x + 4$
<i>John</i>	$x - 17$	$(x - 17) + 4$

$$x + 4 + x - 17 + 4 = 49$$

$$x + 4 + x - 13 = 49$$

$$2x - 9 = 49$$

$$2x - 9 + 9 = 49 + 9$$

$$2x = 58$$

$$\left(\frac{1}{2}\right)(2x) = \left(\frac{1}{2}\right)(58)$$

$$x = 29$$

Michael's present age is 29 years old.