

# Solve an equation needing expansion first

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| NAME | DATE | SCORE<br>/ 10 |
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**1** Solve for  $x$ :  $4(x - 8) + 3 = -49$

**2** A rectangle is 7 cm wide and  $(x + 6)$  cm long, and its area is 49 square cm. The equation  $7(x + 6) = 49$  shows this. What is the value of  $x$ ?

**3** Noah solved  $4(x - 12) = 12$  in the steps below. Which step is the first one that is wrong?

**Step 1:**  $4x - 48 = 12$

**Step 2:**  $4x = 60$

**Step 3:**  $x = 56$

☐ Step 1   ☐ Step 2   ☐ Step 3

**4** Solve for  $x$ :  $5(x + 1) - 9 = 26$

**5** Ben buys 3 shirts that each cost  $x$  dollars, with \$5 off each shirt, and pays \$36 in all. The equation  $3(x - 5) = 36$  shows this. What is the price of one shirt before the money off, in dollars?

**6** Ana solved  $3(x - 3) = 18$  in the steps below. Which step is the first one that is wrong?

**Step 1:**  $3x - 9 = 18$

**Step 2:**  $3x = 27$

**Step 3:**  $x = 24$

☐ Step 1   ☐ Step 2   ☐ Step 3

**7**Solve for  $x$ :  $3(x + 5) = 12$ **8**

Ivy buys 4 shirts that each cost  $x$  dollars, with \$6 off each shirt, and pays \$76 in all. The equation  $4(x - 6) = 76$  shows this. What is the price of one shirt before the money off, in dollars?

**9**Solve for  $x$ :  $4(3x - 7) = -64$ **10**Solve for  $x$ :  $-6(x + 1) - 4 = -46$

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**1**    $-5$ 

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**3**   Step 3

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**5**    $17$ 

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**7**    $-1$ 

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**9**    $-3$ 

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**2**    $1$ 

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**4**    $6$ 

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**6**   Step 3

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**8**    $25$ 

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**10**    $6$