Do Now

Solve and Check:

1) $-3(2x + 4) = 6$

$-6x - 12 = 6$
$+12 \quad +12$
$\frac{-6x}{-6} = \frac{18}{-6}$
$x = -3$

CK
$-3(2x+4)=6$
$-3(2(-3)+4)=6$
$-3((-6)+4)=6$
$-3(-2)=6$
$6=6$ ✓

2) $\frac{1}{2}(8y - 24) = 52$

$4y - 12 = 52$
$+12 \quad +12$
$\frac{4y}{4} = \frac{64}{4}$
$y = 16$

CK
$\frac{1}{2}(8y-24)=52$
$\frac{1}{2}(8(16)-24)=52$
$\frac{1}{2}(128-24)=52$
$\frac{1}{2}(104)=52$
$52=52$ ✓

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Homework Answers

1) x = -1

2) x = 3

3) y = 12

4) x = 6

5) m= $\frac{29}{4}$

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Recall:

In order to combine terms, they need the same:

1) Variable $2x^1, -3x^1$

2) Exponent $x^2, 2x$ $3, -5$

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Equations with Variable on Both Sides

When solving equations with variables on both sides, you need to get all the variables to the same side.

Solve and Check:

1) $2x + 8 = 4x$

$-2x \quad -2x$

$\frac{8}{2} = \frac{2x}{2}$

$4 = x$

CK

$2x + 8 = 4x$

$2(4) + 8 = 4(4)$

$8 + 8 = 16$

$16 = 16$ ✓

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Equations with Variable on Both Sides

Solve and Check:

2) $5x - 2 = 3x + 4$

$-3x \quad -3x$

$2x - 2 = 4$

$+2 \quad +2$

$\frac{2x}{2} = \frac{6}{2}$

$x = 3$

CK

$5x - 2 = 3x + 4$

$5(3) - 2 = 3(3) + 4$

$15 - 2 = 9 + 4$

$13 = 13$ ✓

3) $3n - 9 = 2n + 12$

$+9 \quad +9$

$3n = 2n + 21$

$-2n \quad -2n$

$n = 21$

Ck

$3n - 9 = 2n + 12$

$3(21) - 9 = 2(21) + 12$

$63 - 9 = 42 + 12$

$54 = 54$ ✓

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Equations with Variable on Both Sides

Solve and Check:

4) $-2(m - 5) = 6m - 14$

$-2m + 10 = 6m - 14$

$+2m \quad +2m$

$10 = 8m - 14$

$+14 \quad +14$

$\frac{24}{8} = \frac{8m}{8}$

$3 = m$

CK

$-2(m-5) = 6m - 14$

$-2((3)-5) = 6(3) - 14$

$-2(-2) = 18 - 14$

$4 = 4$ ✓

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Equations with Variable on Both Sides

Solve and Check:

5) $\frac{1}{2}(12y+2)=19$

* 6) -8(4 + w) = 8w

$-32-8w=8w$
$+8w \quad +8w$
$\frac{-32}{16}=\frac{16w}{16}$
$-2=w$

Ck
$-8(4+w)=8w$
$-8(4+(-2))=8(-2)$
$-8(+2)=-16$
$-16=-16$ ✓

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