Worksheet

05/15/2020

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Problem quickname: 3102

1)

Solve the equation: Determine the value of the variable. Combine like terms and perform equivalent transformations.

a) $10(q+9)-370=7q+2$ b) $9(r+11)-244=2r-5$
c) $11(n+3)-329=2n+5n$ d) $7(p+11)+3p=203+4p$
e) $9(e+7)-4e=195-e$

2)

Solve the equation: Determine the value of the variable x. Combine like terms and perform equivalent transformations.

a)
$$\begin{aligned} 11(x+1)-7x-3x &= 149-5x && \mid \text{expand/multiply out paranthesis}\\ \square x+\square-\square x-\square x &= 149-5x && \mid \text{rearrange and combine like terms}\\ x+\square &= -\square x+\square && \mid -\square\\ x &= -\square x+\square && \mid +\square\\ \square x &= \square && \mid :\square\\ x &= \square \end{aligned}$$

b)
$$\begin{aligned} 10(x+8)+4 &= 4x+134+4 && \mid \text{expand/multiply out paranthesis}\\ \square x+\square+\square &= 4x+134+4 && \mid \text{rearrange and combine like terms}\\ \square x+\square &= \square x+\square && \mid -\square\\ \square x &= \square x+\square && \mid -\square\\ \square x &= \square && \mid :\square\\ x &= \square \end{aligned}$$

c)
$$\begin{aligned} 10(x+5)+3 &= 5x+420+3 && \mid \text{expand/multiply out paranthesis}\\ \square x+\square+\square &= 5x+420+3 && \mid \text{rearrange and combine like terms}\\ \square x+\square &= \square x+\square && \mid -\square\\ \square x &= \square x+\square && \mid -\square\\ \square x &= \square && \mid :\square\\ x &= \square \end{aligned}$$

d)
$$\begin{aligned} 11(x+4)-244+1 &= 6x-4 && \mid \text{expand/multiply out paranthesis}\\ \square x+\square-\square+\square &= 6x-4 && \mid \text{rearrange and combine like terms}\\ \square x-\square &= \square x-\square && \mid +\square\\ \square x &= \square x+\square && \mid -\square\\ \square x &= \square && \mid :\square\\ x &= \square \end{aligned}$$

e) $8(x+7)+4x-x=7x+176$ | expand/multiply out paranthesis

$\square x+\square+\square x-x=7x+176$ | rearrange and combine like terms

$\square x+\square=\square x+\square$ | $-\square$

$\square x=\square x+\square$ | $-\square$

$\square x=\square$ | $:\square$

$x=\square$

3)

Solve the equation: Determine the value of the variable. Combine like terms and perform equivalent transformations.

a) $9(v+10)-333=4v-5+2$ | expand/multiply out paranthesis

$\square v+\square-\square=4v-5+2$ | rearrange and combine like terms

$\square v-\square=\square v-\square$ | $+\square$

$\square v=\square v+\square$ | $-\square$

$\square v=\square$ | $:\square$

$v=\square$

b) $10(c+1)-c-150=4c+5$ | expand/multiply out paranthesis

$\square c+\square-c-\square=4c+5$ | rearrange and combine like terms

$\square c-\square=\square c+\square$ | $+\square$

$\square c=\square c+\square$ | $-\square$

$\square c=\square$ | $:\square$

$c=\square$

c) $8(s+5)-98=4s+1+1$ | expand/multiply out paranthesis

$\square s+\square-\square=4s+1+1$ | rearrange and combine like terms

$\square s-\square=\square s+\square$ | $+\square$

$\square s=\square s+\square$ | $-\square$

$\square s=\square$ | $:\square$

$s=\square$

d) $11(g+4)+2g=8g+114-5$ | expand/multiply out paranthesis

$\square g+\square+\square g=8g+114-5$ | rearrange and combine like terms

$\square g+\square=\square g+\square$ | $-\square$

$\square g=\square g+\square$ | $-\square$

$\square g=\square$ | $:\square$

$g=\square$

e) $10(f+5)+4f=9f+317-2$ | expand/multiply out paranthesis

$\square f+\square+\square f=9f+317-2$ | rearrange and combine like terms

$\square f+\square=\square f+\square$ | $-\square$

$\square f=\square f+\square$ | $-\square$

$\square f=\square$ | $:\square$

$f=\square$

4)

Solve the equation: Determine the value of the variable. Combine like terms and

perform equivalent transformations.

a) $-176 + 3u + 8(u + 4) = -2u + 3u + 6u$
b) $4 + 11(h + 9) = 3h + 341 - 2 + 4h$
c) $-356 + 2q + 5 + 9(q + 7) = 8q + 9$
d) $-k + 4 + 10(k + 1) = -2k + 302 + 2k$
e) $-3 - 280 + 4 + 7(z + 1) = 4z - 5$

Good Luck!