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)
$$\begin{aligned} -36+11(v+3)-4 &= 8v+1-2 && \mid \text{expand/multiply out paranthesis}\\ -\square+\square v+\square-\square &= 8v+1-2 && \mid \text{rearrange and combine like terms}\\ \square v-\square &= \square v-\square && \mid +\square\\ \square v &= \square v+\square && \mid -\square\\ \square v &= \square && \mid :\square\\ v &= \square \end{aligned}$$

b)
$$\begin{aligned} -6h-204+8(h+2)-4 &= -4h+2h && \mid \text{expand/multiply out paranthesis}\\ -\square h-\square+\square h+\square-\square &= -4h+2h && \mid \text{rearrange and combine like terms}\\ \square h-\square &= \square h && \mid +\square\\ \square h &= -\square h+\square && \mid +\square\\ \square h &= \square && \mid :\square\\ h &= \square \end{aligned}$$

c)
$$\begin{aligned} 7(w+12)-3w &= 280+4-1+1 && \mid \text{expand/multiply out paranthesis}\\ \square w+\square-\square w &= 280+4-1+1 && \mid \text{rearrange and combine like terms}\\ \square w+\square &= \square && \mid -\square\\ \square w &= \square && \mid :\square\\ w &= \square \end{aligned}$$

d)
$$\begin{aligned} 3+9(a+10)-10a-1 &= 272-4a && \mid \text{expand/multiply out paranthesis}\\ \square+\square a+\square-\square a-\square &= 272-4a && \mid \text{rearrange and combine like terms}\\ -a+\square &= -\square a+\square && \mid -\square\\ -a &= -\square a+\square && \mid +\square\\ \square a &= \square && \mid :\square\\ a &= \square \end{aligned}$$

e)
$$\begin{aligned} 3n+8(n+8)-2n &= 551+4n+3 && \mid \text{expand/multiply out paranthesis}\\ \square n+\square n+\square-\square n &= 551+4n+3 && \mid \text{rearrange and combine like terms}\\ \square n+\square &= \square n+\square && \mid -\square\\ \square n &= \square n+\square && \mid -\square\\ \square n &= \square && \mid :\square\\ n &= \square \end{aligned}$$

2)

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

a) $11(x+6)-1=8x+137$ b) $10(y+3)-766=-2y+4y$

c) $11(t+4)-470=t+4t$ d) $11(u+7)-364=u+3u$
e) $10(i+1)-238=6i-2i$

3)

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

a)
$$\begin{aligned} 9(x+4)-244&=5x-2-2 && \mid \text{expand/multiply out paranthesis}\\ \square x+\square-\square&=5x-2-2 && \mid \text{rearrange and combine like terms}\\ \square x-\square&=\square x-\square && \mid +\square\\ \square x&=\square x+\square && \mid -\square\\ \square x&=\square && \mid :\square\\ x&=\square \end{aligned}$$

b)
$$\begin{aligned} 7(x+7)-402&=3x+2-3 && \mid \text{expand/multiply out paranthesis}\\ \square x+\square-\square&=3x+2-3 && \mid \text{rearrange and combine like terms}\\ \square x-\square&=\square x-\square && \mid +\square\\ \square x&=\square x+\square && \mid -\square\\ \square x&=\square && \mid :\square\\ x&=\square \end{aligned}$$

c)
$$\begin{aligned} 10(x+5)-224-3x&=3x+2 && \mid \text{expand/multiply out paranthesis}\\ \square x+\square-\square-\square x&=3x+2 && \mid \text{rearrange and combine like terms}\\ \square x-\square&=\square x+\square && \mid +\square\\ \square x&=\square x+\square && \mid -\square\\ \square x&=\square && \mid :\square\\ x&=\square \end{aligned}$$

d)
$$\begin{aligned} 10(x+8)-107&=3x+8x-4x && \mid \text{expand/multiply out paranthesis}\\ \square x+\square-\square&=3x+8x-4x && \mid \text{rearrange and combine like terms}\\ \square x-\square&=\square x && \mid +\square\\ \square x&=\square x+\square && \mid -\square\\ \square x&=\square && \mid :\square\\ x&=\square \end{aligned}$$

e)
$$\begin{aligned} 7(x+4)-2-62&=9x-5x && \mid \text{expand/multiply out paranthesis}\\ \square x+\square-\square-\square&=9x-5x && \mid \text{rearrange and combine like terms}\\ \square x-\square&=\square x && \mid +\square\\ \square x&=\square x+\square && \mid -\square\\ \square x&=\square && \mid :\square\\ x&=\square \end{aligned}$$

4)

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

perform equivalent transformations.

a) $8(n+9)+4=5n+140+2$ | expand/multiply out paranthesis

$\square n+\square+\square=5n+140+2$ | rearrange and combine like terms

$\square n+\square=\square n+\square$ | $-\square$

$\square n=\square n+\square$ | $-\square$

$\square n=\square$ | $:\square$

$n=\square$

b) $8(r+4)+r=236+4+5r$ | expand/multiply out paranthesis

$\square r+\square+r=236+4+5r$ | rearrange and combine like terms

$\square r+\square=\square r+\square$ | $-\square$

$\square r=\square r+\square$ | $-\square$

$\square r=\square$ | $:\square$

$r=\square$

c) $11(p+7)-3p=801+3+1$ | expand/multiply out paranthesis

$\square p+\square-\square p=801+3+1$ | rearrange and combine like terms

$\square p+\square=\square$ | $-\square$

$\square p=\square$ | $:\square$

$p=\square$

d) $11(s+3)-126=7s-1+4$ | expand/multiply out paranthesis

$\square s+\square-\square=7s-1+4$ | rearrange and combine like terms

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

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

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

$s=\square$

e) $11(c+3)-319=6c+3-4$ | expand/multiply out paranthesis

$\square c+\square-\square=6c+3-4$ | rearrange and combine like terms

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

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

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

$c=\square$

Good Luck!