Worksheet

05/15/2020

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Problem quickname: 9505

<u>1)</u>

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

a) $-474 + 2 = -2 - 5d$ Lösung: $d = 94$

b) $-340 + 5q = 10q - 9q$ Lösung: $q = 85$

c) $377 - 9 = -4 + 4p$ Lösung: $p = 93$ d) $-4j + 7 = 2 - 3$ Lösung: $j = 2$

e) $-2u + 46 = -2 + 4$ Lösung: $u = 22$ f) $-3 + 2 = 289 - 5j$ Lösung: $j = 58$

 g) $3r - 4 = -189 + 8r$ Lösung: $r = 37$

h) $-9c + 2 = -258 + c$ Lösung: $c = 26$

i) $-6n + 3 = -53 - 4$ Lösung: $n = 10$

<u>2)</u>

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

a)
$$
\begin{aligned}
-286 + 2u &= -2u - 2 &&| \text{ rearrange and combine like terms}\\
2u - 286 &= -2u - 2 &&| +286\\
2u &= -2u + 284 &&| +2u\\
4u &= 284 &&| : 4\\
u &= 71
\end{aligned}
$$

b)
$$
\begin{aligned}
-120 + 5 &= -4q + 1 &&| \text{ rearrange and combine like terms}\\
-115 &= -4q + 1 &&| +115\\
0 &= -4q + 116 &&| +4q\\
4q &= 116 &&| : 4\\
q &= 29
\end{aligned}
$$

c)
$$
\begin{aligned}
-4h + 5h &= -136 + 9h &&| \text{ rearrange and combine like terms}\\
h &= 9h - 136 &&| -9h\\
-8h &= -136 &&| : \text{-8}\\
h &= 17
\end{aligned}
$$

d)
$$
\begin{aligned}
248 + 3i &= -3i + 14i &&| \text{ rearrange and combine like terms}\\
3i + 248 &= 11i &&| -248\\
3i &= 11i - 248 &&| -11i\\
-8i &= -248 &&| : \text{-8}\\
i &= 31
\end{aligned}
$$

e)
$$
\begin{aligned}
6v - 5v &= -93 + 4v &&| \text{ rearrange and combine like terms}\\
v &= 4v - 93 &&| -4v\\
-3v &= -93 &&| : \text{-3}\\
v &= 31
\end{aligned}
$$

f) $-6e + 399 = 3e + 3$ $| -399$
$-6e = 3e - 396$ $| -3e$
$-9e = -396$ $| : \text{-}9$
$e = 44$

g) $-9u - 4 = -3 - 244$ $|$ rearrange and combine like terms
$-9u - 4 = -247$ $| +4$
$-9u = -243$ $| : \text{-}9$
$u = 27$

h) $-5s + 3s = -204 + 4s$ $|$ rearrange and combine like terms
$-2s = 4s - 204$ $| -4s$
$-6s = -204$ $| : \text{-}6$
$s = 34$

i) $-5v - 3v = -2v - 108$ $|$ rearrange and combine like terms
$-8v = -2v - 108$ $| +2v$
$-6v = -108$ $| : \text{-}6$
$v = 18$

3)

Quick: 9505

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

a) $-3u + 275 = -1 - 3$ $|$ rearrange and combine like terms
$-3u + 275 = -4$ $| -275$
$-3u = -279$ $| : \text{-}3$
$u = 93$

b) $1 - 4 = -248 + 7g$ $|$ rearrange and combine like terms
$-3 = 7g - 248$ $| +3$
$0 = 7g - 245$ $| -7g$
$-7g = -245$ $| : \text{-}7$
$g = 35$

c) $-328 + 3j = 2j - 7j$ $|$ rearrange and combine like terms
$3j - 328 = -5j$ $| +328$
$3j = -5j + 328$ $| +5j$
$8j = 328$ $| : 8$
$j = 41$

d) $3t + 5t = 2t + 222$ $|$ rearrange and combine like terms
$8t = 2t + 222$ $| -2t$
$6t = 222$ $| : 6$
$t = 37$

e) $-15n - 5 = -415 - 5n$ $|$ rearrange and combine like terms
$-15n - 5 = -5n - 415$ $| +5$
$-15n = -5n - 410$ $| +5n$
$-10n = -410$ $| : \text{-}10$
$n = 41$

f) $335 - 3 = -2b + 6b$ | rearrange and combine like terms

$\qquad 332 = 4b$ | -332

$\qquad 0 = 4b - 332$ | $-4b$

$\qquad -4b = -332$ | : -4

$\qquad b = 83$

g) $-4k + 3 = -184 - 5$ | rearrange and combine like terms

$\quad -4k + 3 = -189$ | -3

$\qquad -4k = -192$ | : -4

$\qquad k = 48$

h) $-357 - 5y = -3y - 9y$ | rearrange and combine like terms

$\quad -5y - 357 = -12y$ | $+357$

$\qquad -5y = -12y + 357$ | $+12y$

$\qquad 7y = 357$ | : 7

$\qquad y = 51$

i) $-3 + 5m = -263 + 10m$ | rearrange and combine like terms

$\quad 5m - 3 = 10m - 263$ | $+3$

$\qquad 5m = 10m - 260$ | $-10m$

$\qquad -5m = -260$ | : -5

$\qquad m = 52$

4)

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

a) $-2x + 8 - 4 = x - 56$ Lösung: $x = 20$

b) $7x - 479 - 1 = -2x + 4x$ Lösung: $x = 96$

c) $-5x - 3x + 5 = -148 + 1$ Lösung: $x = 19$

d) $6x - 195 + 2 = 3 - 4$ Lösung: $x = 32$

e) $-154 + 7 - 5 = -5x + 3$ Lösung: $x = 31$

f) $-10x + 3 + 4x = -189 + 2x$ Lösung: $x = 24$

g) $-5x + 750 - x = 2x + 2x$ Lösung: $x = 75$

h) $5x - 5 + 3 = -1 + 139$ Lösung: $x = 28$

i) $-158 + 2 + 3x = -2x - x$ Lösung: $x = 26$

Good Luck!