

**SOLVING ONE STEP EQUATIONS (ADD / SUBTRACT) TRADITIONAL METHOD HELP** ANSWERS - PAGE 1

TODAY I HAD TO SOLVE THE EQUATION  $x + 7 = 33$   
THE TEACHER TOLD ME TO SEPARATE THE VARIABLE FROM THE NUMBERS. MAX, WHAT DID SHE MEAN?

WHAT YOUR TEACHER WANTS YOU TO DO IS SOLVE FOR "x", AND TO DO THAT YOU NEED TO GET "x" BY ITSELF.

SO I NEED TO GET "x" ON ONE SIDE OF THE EQUAL SIGN AND THE NUMBERS ON THE OTHER?

EXACTLY! SO YOU NEED TO MOVE THE 7 AWAY FROM THE "x" OR MAKE IT DISAPPEAR. IT IS KIND OF LIKE THE LETTERS AND NUMBERS DO NOT LIKE EACH OTHER, AND THEY WANT TO BE ON OPPOSITE SIDES OF THE EQUAL SIGN.

OK. SO HOW DO I MOVE THE 7 OR MAKE IT DISAPPEAR?

GOOD QUESTION. REMEMBER EQUALS MEANS BOTH SIDES ARE THE SAME. THIS MEANS WE CAN MAKE CHANGES TO OUR PROBLEM, BUT ONLY IF WE DO THE EXACT SAME THING TO BOTH SIDES.

WAIT A SECOND, I THINK I SEE WHAT YOU'RE SAYING. IF I WANT TO MAKE THE 7 DISAPPEAR I CAN DO THE OPPOSITE OPERATION TO CANCEL IT OUT, WHICH MEANS I WOULD SUBTRACT 7.

BUT YOU HAVE TO DO THE SAME THING TO BOTH SIDES, SO YOU NEED TO SUBTRACT 7 ON THE RIGHT SIDE TOO.

DO YOU SEE HOW THE SEVEN WAS ADDITION (+) AND IF YOU DO THE OPPOSITE OPERATION, SUBTRACTION (-), IT CHANGES TO 0? IT MAKES IT DISAPPEAR.

I WANT TO BE BY MYSELF.

MAN, THAT'S TOTALLY SIMPLE. SO...  
1. FIGURE OUT WHICH NUMBER TO MOVE.  
2. DO THE OPPOSITE OPERATION TO IT.  
3. DO THE SAME THING TO THE OTHER SIDE.  
4. SOLVE.

**ANOTHER EXAMPLE**

**SOLVING ONE STEP EQUATIONS PRACTICE - A** ANSWERS - PAGE 2

ON THIS PROBLEM THE -27 WANTS TO GET AWAY FROM THE r. TO MAKE HIM DISAPPEAR TO THE OTHER SIDE DO THE OPPOSITE OPERATION.

ON THIS PROBLEM THE +35 WANTS TO GET AWAY FROM THE g. TO MAKE HIM DISAPPEAR TO THE OTHER SIDE DO THE OPPOSITE OPERATION.

SEE...NOW THE NUMBERS ARE ON ONE SIDE, AND THE VARIABLES ARE ON THE OTHER.

**SOLVE EACH EQUATION**

3.  $t + 51 = 73$   
 $t = 22$

4.  $w - 20 = 67$   
 $w = 87$

5.  $e + 45 = 83$   
 $e = 38$

6.  $102 = x + 61$   
 $x = 41$

7.  $99 = h - 48$   
 $h = 51$

8.  $54 = y - 70$   
 $y = 124$

9.  $t - 38 = 47$   
 $t = 85$

10.  $47 = t - 38$   
 $t = 85$

11.  $k + 90 = 189$   
 $k = 99$

12.  $88 = y + 55$   
 $y = 33$

13.  $w - 202 = 268$   
 $w = 470$

14.  $300 = j + 167$   
 $j = 133$

15.  $p - 105 = 147$   
 $p = 252$

16.  $89 = v - 217$   
 $v = 306$

17.  $g + 42 = 75$   
 $g = 33$

18.  $d + 89 = 136$   
 $d = 47$

19.  $x - 199 = 45$   
 $x = 244$

20.  $248 = h - 232$   
 $h = 480$

21.  $367 = y + 255$   
 $y = 112$

22.  $p + 339 = 482$   
 $p = 143$

23.  $600 = r - 523$   
 $r = 1,123$

**SOLVING ONE STEP EQUATIONS PRACTICE - B** ANSWERS - PAGE 3

SOMETIMES THE HARDEST PART IS KNOWING WHICH NUMBER NEEDS TO BE MOVED. JUST REMEMBER, NUMBERS AND LETTERS DO NOT LIKE EACH OTHER.

1.  $56 + p = 482$   
 $-56$   
 $0 + p = 426$   
 $p = 426$

2.  $-32 + r = 68$   
 $+32$   
 $0 + r = 100$   
 $r = 100$

THE 56 DOES NOT HAVE A SIGN. THAT MEANS IT IS POSITIVE OR PLUS. THE OPPOSITE WILL BE SUBTRACTION.

THE 32 HAS A NEGATIVE OR MINUS SIGN NEXT TO IT, WHICH MEANS THE OPPOSITE WILL BE ADDITION.

SOLVE EACH EQUATION

3.  $+39 + r = 95$   
 $r = 56$
4.  $-39 + t = 95$   
 $t = 134$
5.  $48 = 45 + y$   
 $y = 3$
6.  $-50 + w = 120$   
 $w = 170$
7.  $105 = -28 + c$   
 $c = 133$
8.  $+61 + k = 167$   
 $k = 106$
9.  $120 = 68 + s$   
 $s = 52$
10.  $+110 + b = 173$   
 $b = 63$
11.  $81 = -39 + f$   
 $f = 120$
12.  $94 = -202 + a$   
 $a = 296$
13.  $-136 + g = 100$   
 $g = 236$
14.  $183 = 83 + k$   
 $k = 100$
15.  $-141 + e = 84$   
 $e = 225$
16.  $222 + r = 292$   
 $r = 70$
17.  $+56 + p = 137$   
 $p = 81$
18.  $235 = 50 + y$   
 $y = 185$
19.  $46 = -104 + x$   
 $x = 150$
20.  $-282 + t = 60$   
 $t = 342$
21.  $216 = -189 + w$   
 $w = 405$
22.  $293 + n = 374$   
 $n = 81$
23.  $556 = 401 + d$   
 $d = 155$

**SOLVING ONE STEP EQUATIONS PRACTICE - C** ANSWERS - PAGE 4

THESE TWO ARE A LITTLE TRICKY. AFTER YOU MOVE THE NUMBER AWAY FROM THE VARIABLE THERE IS A NEGATIVE SIGN STILL NEXT TO THE LETTER. HAVE YOU EVER HEARD OF A NEGATIVE LETTER BEFORE?

$34 - d = 217$   
 $-34$   
 $0 - d = 183$   
 $? - d = 183$   
 $-d = 183$   
 $d = -183$

$64 = -81 - x$   
 $+81$   
 $145 = 0 - x$   
 $? 145 = -x$   
 $145 = -x$   
 $-145 = x$

MOVE THE NEGATIVE TO THE OTHER SIDE.

$34 - d = 217$   
 $34 - (-183) = 217$   
 $34 + 183 = 217$   
 $217 = 217$

$64 = -81 - x$   
 $64 = -81 - (-145)$   
 $64 = -81 + 145$   
 $64 = 64$

SOLVE EACH EQUATION

3.  $47 - r = 92$   
 $r = -45$
4.  $47 + s = 92$   
 $s = 45$
5.  $90 = 81 - y$   
 $y = -9$
6.  $t - 162 = 391$   
 $t = 553$
7.  $67 = +42 + e$   
 $e = 25$
8.  $123 - n = 138$   
 $n = -15$
9.  $101 = a - 99$   
 $a = 200$
10.  $-b - 256 = 64$   
 $b = -320$
11.  $401 = 349 + d$   
 $d = 52$
12.  $78 - y = 245$   
 $y = -167$
13.  $573 = 202 - k$   
 $k = -371$
14.  $g - 58 = 273$   
 $g = 331$
15.  $741 = -h + 230$   
 $h = -511$
16.  $-146 - x = 178$   
 $x = -324$
17.  $318 + s = 537$   
 $s = 219$
18.  $-318 + p = 537$   
 $p = 855$
19.  $261 = -716 + m$   
 $m = 977$
20.  $0 = 0 - x$   
 $x = 0$