

SOLVING ONE STEP EQUATIONS (MULTIPLY / DIVIDE) ANSWERS - PAGE 1
TRADITIONAL METHOD

HEY MAX, I KNOW YOU ALREADY HELPED ME WITH SOLVING ONE STEP EQUATIONS FOR ADDING AND SUBTRACTING, BUT WHAT ABOUT MULTIPLICATION AND DIVISION.

WELL POE...IT'S PRACTICALLY THE SAME THING. YOU ALREADY KNOW THAT ADDITION AND SUBTRACTION ARE OPPOSITES. WELL, SO ARE MULTIPLICATION AND DIVISION.

AND OPPOSITES CANCEL EACH OTHER OUT, BUT CAN YOU SHOW US AN EXAMPLE?

GOOD IDEA...CHECK THIS OUT. DO YOU SEE HOW THE FOUR IS RIGHT NEXT TO THE c? THAT JUST MEANS $4 \times c = 32$.

$4c = 32$

WAIT A SECOND, NOW I REMEMBER. THE LETTERS AND NUMBERS DO NOT LIKE EACH OTHER, AND THEY WANT TO BE ON OPPOSITE SIDES.

$4c = 32$

EXACTLY, AND 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.

AND IF WE LOOK AT THE PROBLEM, THE FOUR IS THE BEST NUMBER TO MOVE.

SO WE DO THE OPPOSITE OPERATION OF MULTIPLICATION WHICH WOULD BE...

DIVISION. SO I DIVIDE BOTH SIDES BY FOUR.

$4c = 32$
 $\div 4 = \div 4$
 $1c = \frac{32}{4}$
 $c = 8$

THIS MEANS DIVISION ($4 \div 32$).

BEFORE YOU MOVE ON, CHECK OUT THESE EXAMPLES.

1. $24 = 4w$
 $\div 4 = \div 4$
 $\frac{24}{4} = \frac{4w}{4}$
 $6 = w$

2. $\frac{k}{5} = 20$
 $\times 5 = \times 5$
 $1k = 20 \times 5$
 $k = 100$

OPPOSITE OF DIVISION IS MULTIPLICATION.

3. $\frac{k}{5} = 20$
 $100 / 5 = 20$
 $20 = 20$

SOLVING ONE STEP EQUATIONS PRACTICE - B ANSWERS - PAGE 3

CHECK THESE OUT. AFTER YOU MOVE THE NUMBER, THERE IS A NEGATIVE STILL NEXT TO THE VARIABLE. YOU HAVE TO MOVE IT TOO.

1. $9 = -\frac{t}{5}$
 $\times 5 = \times 5$
 $5 \circ 9 = -1t$
 $-45 = -t$
 $-45 = t$

THE OPPOSITE OPERATION CANCELS OUT THE NUMBER NEXT TO THE VARIABLE.

2. $-9f = 99$
 $\div 9 = \div 9$
 $-1f = \frac{99}{9}$
 $-f = 11$
 $f = -11$

MOVE THE NEGATIVE TO THE OTHER SIDE.

SEE IF YOUR ANSWER MAKES SENSE.
 $9 = -t / 5$
 $9 = -(-45) / 5$
 $9 = +45 / 5$
 $9 = 9$

SEE IF YOUR ANSWER MAKES SENSE.
 $-9f = 99$
 $-9(-11) = 99$
 $+99 = 99$

SOLVE EACH EQUATION.

3. $12 = -\frac{w}{6}$
 $w = -72$

4. $\frac{y}{10} = 30$
 $y = 300$

5. $-7u = 119$
 $u = -17$

6. $32 = \frac{t}{4}$
 $t = 128$

7. $-13r = 195$
 $r = -15$

8. $-\frac{f}{2} = 18$
 $f = -36$

9. $8s = 336$
 $s = 42$

10. $\frac{y}{3} = 36$
 $y = 108$

11. $240 = -12n$
 $n = -20$

12. $-\frac{a}{11} = 77$
 $a = -847$

13. $198 = -6z$
 $z = -33$

14. $40 = -\frac{k}{8}$
 $k = -320$

15. $330 = 15b$
 $b = 22$

16. $100 = \frac{e}{10}$
 $e = 1,000$

17. $-8n = 40$
 $n = -5$

18. $21e = 462$
 $e = 22$

19. $-\frac{x}{12} = 72$
 $x = -864$

20. $72 = 12y$
 $y = 6$

SOLVING ONE STEP EQUATIONS PRACTICE - A ANSWERS - PAGE 2

WHEN YOU MULTIPLY $\frac{1}{3}$ BY 3, IT CANCELS OUT THE 3'S AND MAKES 1.

1. $15 = \frac{t}{3}$
 $\times 3 = \times 3$
 $3 \circ 15 = 1t$
 $45 = t$

2. $7z = 77$
 $\div 7 = \div 7$
 $z = 11$

3. $\frac{1}{8} \times 8 = \frac{8}{8} = 1$
 $\frac{r}{8} = 9$
 $\times 8 = \times 8$
 $r = 72$

I WANT TO GET AWAY FROM THE z.

SOLVE EACH EQUATION.

4. $11e = 121$
 $e = 11$

5. $\frac{y}{4} = 14$
 $y = 56$

6. $91 = 7g$
 $g = 13$

7. $12 = \frac{t}{10}$
 $t = 120$

8. $9h = 117$
 $h = 13$

9. $\frac{p}{6} = 8$
 $p = 48$

10. $88 = 4i$
 $i = 22$

11. $303 = \frac{a}{3}$
 $a = 909$

12. $3n = 909$
 $n = 303$

13. $\frac{b}{16} = 8$
 $b = 128$

14. $147 = 7u$
 $u = 21$

15. $18 = \frac{x}{6}$
 $x = 108$

16. $25v = 125$
 $v = 5$

17. $\frac{r}{20} = 4$
 $r = 80$

18. $154 = 11y$
 $y = 14$

19. $21 = \frac{c}{7}$
 $c = 147$

20. $\frac{d}{42} = 6$
 $d = 252$

21. $13y = 169$
 $y = 13$

22. $99 = 3j$
 $j = 33$

23. $8u = 440$
 $u = 55$

24. $522 = \frac{s}{9}$
 $s = 4,698$

SOLVING ONE STEP EQUATIONS PRACTICE - C ANSWERS - PAGE 4

THEY'RE TRYING TO TRICK US ON THESE PROBLEMS.

1. $15 = \frac{1}{3}t$
 $\frac{1}{3}t$ IS THE SAME AS $\frac{t}{3}$
 $\times 3 = \times 3$
 $3 \circ 15 = 1t$
 $45 = t$

IF YOU WERE CONFUSED
 $1t = t$ AND $1f = f$

2. $-\frac{1}{3}t = 15$
 $-\frac{1}{3}t$ IS THE SAME AS $-\frac{t}{3}$
 $-\frac{t}{3} = 15$
 $\times 3 = \times 3$
 $-1f = 45$
 $f = -45$

SOLVE EACH EQUATION.

3. $\frac{1}{7}g = 14$
 $g = 98$

4. $-13u = 234$
 $u = -18$

5. $60 = -\frac{1}{6}f$
 $f = -360$

6. $7s = 126$
 $s = 18$

7. $-\frac{x}{5} = 20$
 $x = -100$

8. $49 = -7p$
 $p = -7$

9. $182 = 13m$
 $m = 14$

10. $36 = -\frac{1}{9}b$
 $b = -324$

11. $-11y = 110$
 $y = -10$

12. $-\frac{1}{2}u = 10$
 $u = -20$

13. $224 = 7e$
 $e = 32$

14. $40 = \frac{c}{5}$
 $c = 200$

15. $-\frac{1}{11}r = 55$
 $r = -605$

16. $28 = -\frac{d}{7}$
 $d = -196$

17. $15y = 120$
 $y = 8$

18. $200 = 25j$
 $j = 8$

19. $30 = -\frac{1}{6}s$
 $s = -180$

20. $-5y = 140$
 $y = -28$