YOU ARE TRYING TO GET THE NUMBERS AND VARIABLES ON OPPOSITE SIDES OF THE EQUAL SIGN. IF WE MOVE THE **4** ALL THE NUMBERS WILL BE ON THE RIGHT SIDE.

DO YOU SEE HOW THE **5** AND *t* ARE ON THE SAME SIDE OF THE EQUAL SIGN? IF WE MOVE THE **5** THE NUMBERS WILL BE ON THE LEFT AND *t* WILL BE ON THE RIGHT.

WHEN YOU WANT TO CANCEL A NUMBER OUT OR MOVE IT, USE ITS OPPOSITE OPERATION. MULTIPLICATION AND DIVISION ARE OPPOSITES.

1.
$$r \div 4 = 8$$
$$\times 4 \quad \times 4$$
$$r \div 1 = 32$$
$$r = 32$$

CHANGE *r* TO 32 AND SEE IF THE ANSWER MAKES SENSE:
$$32 \div 4 = 8$$
YES

2.
$$30 = t \times 5$$
$$\div 5 \quad\quad \div 5$$
$$6 = t \times 1$$
$$6 = t$$

CHANGE *t* TO 6 AND SEE IF THE ANSWER MAKES SENSE:
$$30 = 5 \times 6$$
YES

SOLVE EACH EQUATION.

3.
$$d \div 8 = 12$$
$$d = 96$$

4.
$$52 = h \times 4$$
$$13 = h$$

5.
$$7 = e \div 6$$
$$42 = e$$

6.
$$q \times 5 = 75$$
$$q = 15$$

7.
$$y \div 9 = 18$$
$$y = 162$$

8.
$$51 = 3 \times k$$
$$17 = k$$

9.
$$24 = u \div 8$$
$$192 = u$$

10.
$$7 \times g = 217$$
$$g = 31$$

11.
$$j \div 5 = 20$$
$$j = 100$$

ANOTHER WAY OF SHOWING MULTIPLICATION AND DIVISION: $6 \times d = 6d$ OR $f \div 5 = \dfrac{f}{5}$

12.
$$\frac{w}{7} = 6$$
$$w = 42$$

13.
$$3g = 27$$
$$g = 9$$

14.
$$2 = \frac{v}{10}$$
$$20 = v$$

15.
$$56 = 8p$$
$$7 = q$$

16.
$$9y = 117$$
$$y = 13$$

17.
$$\frac{b}{6} = 12$$
$$b = 72$$

18.
$$45 = 5q$$
$$9 = q$$

19.
$$45 = \frac{n}{5}$$
$$225 = n$$

YOU CAN **NOT** HAVE A NEGATIVE NEXT TO THE VARIABLE. YOU HAVE TO MOVE IT.

1.
MULTIPLICATION CANCELS DIVISION OUT

MOVE THE NEGATIVE TO THE OTHER SIDE.

$$7 = -\frac{b}{5}$$
$$\times 5 \quad\quad \times 5$$
$$35 = -b$$
$$-35 = b$$

SEE IF YOUR ANSWER MAKES SENSE.
$$7 = -b/5$$
$$7 = -(-35)/5$$
$$7 = +35/5$$
$$7 = 7$$

2.
DIVISION CANCELS MULTIPLICATION OUT

MOVE THE NEGATIVE TO THE OTHER SIDE.

$$-8k = 96$$
$$\div 8 \quad \div 8$$
$$-k = 12$$
$$k = -12$$

SEE IF YOUR ANSWER MAKES SENSE.
$$-8k = 96$$
$$-8(-12) = 96$$
$$+96 = 96$$

SOLVE EACH EQUATION.

3.
$$8 = -\frac{d}{4}$$
$$-32 = d$$

4.
$$-13t = 208$$
$$t = -16$$

5.
$$189 = -9y$$
$$-21 = y$$

6.
$$-\frac{m}{7} = 7$$
$$m = -49$$

7.
$$-2w = 64$$
$$w = -32$$

8.
$$\frac{s}{6} = 18$$
$$s = 108$$

9.
$$10 = -\frac{r}{2}$$
$$-20 = r$$

10.
$$-\frac{h}{11} = 22$$
$$h = -242$$

11.
$$-18 = -6d$$
$$3 = d$$

12.
$$3h = 72$$
$$h = 24$$

13.
$$5 = -5u$$
$$-1 = u$$

14.
$$40 = \frac{f}{8}$$
$$320 = f$$

15.
$$\frac{x}{5} = 7$$
$$x = 35$$

16.
$$40 = 8k$$
$$5 = k$$

17.
$$-9 = -\frac{c}{8}$$
$$72 = c$$

18.
$$-15y = 105$$
$$y = -7$$

19.
$$-4k = -60$$
$$k = 15$$

20.
$$33 = -\frac{n}{3}$$
$$-99 = n$$

21.
$$-\frac{b}{7} = -19$$
$$b = 133$$

22.
$$186 = 6k$$
$$31 = k$$