

DIVISION is *repeated subtraction*.

$$20 \div 4 = ??$$

$20 - 4 - 4 - 4 - 4 - 4 = 0$.
I subtracted 4 five times,
so $20 \div 4 = 5$.

$$84 \div 21 = ??$$

$$\begin{array}{r} 84 \\ - 21 \quad 1 \\ \hline 63 \\ - 21 \quad 1 \\ \hline 42 \\ - 21 \quad 1 \\ \hline 21 \\ - 21 \quad 1 \\ \hline 0 \quad 4 \end{array}$$

I subtracted 21 four times,
so $84 \div 21 = 4$

Often, it is handier to actually add instead of subtract:

Since $13 + 13 = 26$,
13 goes to 26 two times.
So $26 \div 13 = 2$

Since $21 + 21 + 21 + 21 = 84$,
21 goes to 84 four times.
So $84 \div 21 = 4$

Example problems

1. Write a multiplication sentence AND a division sentence that fits the addition/subtraction facts.

$$\begin{array}{l} 5 + 5 + 5 = 15 \\ 15 - 5 - 5 - 5 = 0 \end{array}$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

$$\begin{array}{l} 12 + 12 + 12 + 12 = 48 \\ 48 - 12 - 12 - 12 - 12 = 0 \end{array}$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

$$23 + 23 + 23 = \underline{\quad}$$

$$40 + 40 = \underline{\quad}$$

$$\underline{\quad} - 23 - 23 - 23 = 0$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} - 40 - 40 = 0$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

2. Write a subtraction sentence for each division sentence.

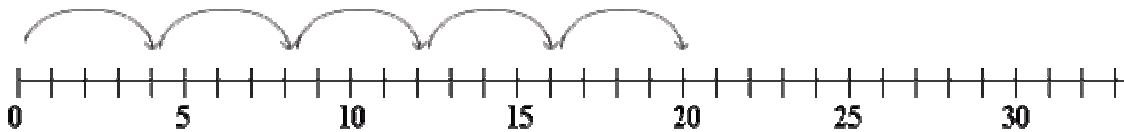
$$45 \div 15 = \underline{\quad}$$

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$$32 \div 8 = \underline{\quad}$$

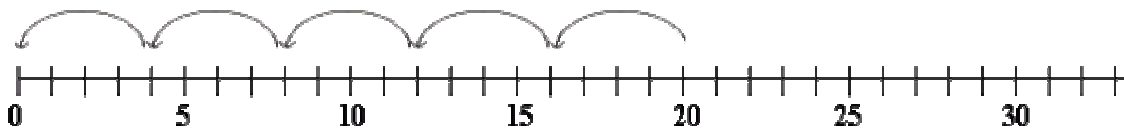
32 -

Multiplication is repeated addition, and it is like jumps on the number line.

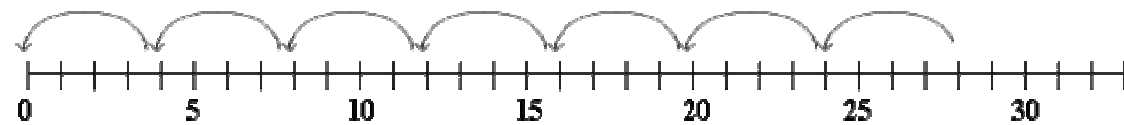


$5 \times 4 = 20$. Five jumps of 4 gets you to 20.

Division is repeated subtraction. You make jumps of four backwards from 20 till you hit 0:

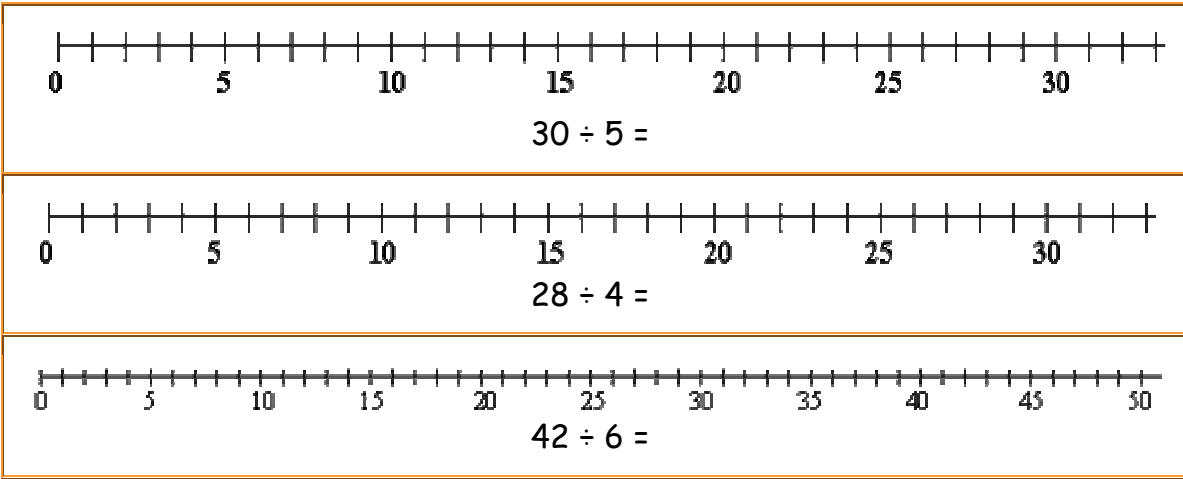


$20 \div 4 = 5$. $20 - 4 - 4 - 4 - 4 - 4 = 0$
Five jumps of 4 gets you from 20 till 0.



What division is illustrated here?

2. Draw jumps backwards to illustrate the division sentences.



4. Solve using repeated subtraction OR adding up to the number being divided.

$40 \div 20 = \underline{\quad}$	$52 \div 13 = \underline{\quad}$	$45 \div 15 = \underline{\quad}$
$90 \div 30 = \underline{\quad}$	$34 \div 17 = \underline{\quad}$	$90 \div 15 = \underline{\quad}$
$30 \div 15 = \underline{\quad}$	$69 \div 23 = \underline{\quad}$	$90 \div 18 = \underline{\quad}$

5. If $12 \times 2 = 24$, then 13×2 is $\underline{\quad}$ How about division? Use the previous problem to help you solve the next one.

a. $24 \div 2 = \underline{\quad}$	d. $60 \div 2 = \underline{\quad}$
$26 \div 2 = \underline{\quad}$	$66 \div 2 = \underline{\quad}$
$28 \div 2 = \underline{\quad}$	$70 \div 2 = \underline{\quad}$
$30 \div 2 = \underline{\quad}$	$78 \div 2 = \underline{\quad}$

6. Try the same kind of thing when dividing by 3.

a. $30 \div 3 = \underline{\quad}$	d. $81 \div 3 = \underline{\quad}$
$36 \div 3 = \underline{\quad}$	$90 \div 3 = \underline{\quad}$
$39 \div 3 = \underline{\quad}$	$99 \div 3 = \underline{\quad}$

