



○ = -
● = +

Warm Up Grade 8

Sept. 11, 2019



1) Use rules

a) $(-7)(-11)$

same
+ 77

b) $(-56) \div (-2)$

+ 28

c) $(+14) \times (-2)$

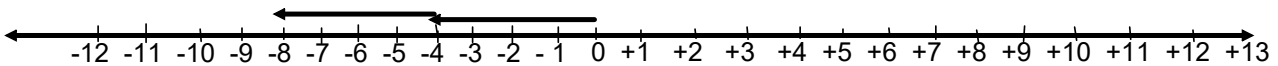
- 28

d) $(+24) \div (-4)$

- 6

on assessment

2) Write a division equation for the following number line.



Thinking # arrows x Jump = Star
 $(-2) \times (-4) = -8$

Size
 $(-8) \div (-4) = +2$
 $(-8) \div (+2) = -4$

3) Find the product using the distributive property box method

$(-25) \times (-31) = + 775$

(show all work)

	20	5
30	$20 \times 30 = 600$	$30 \times 5 = 150$
1	$1 \times 20 = 20$	$1 \times 5 = 5$

$$\begin{array}{r} 600 \\ 150 \\ 20 \\ + 5 \\ \hline 775 \end{array}$$

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11) Rose 3° each hour for a total change of $+12^{\circ}$.

$$(+12) \div (+3) = (+4)$$

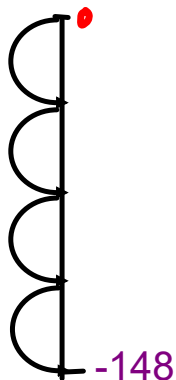
It took 4 hours for the change in temperature

12) Fell 4°C each hour for a total change of -20°C .

$$(-20) \div (-4) = (+5)$$

It took 5 hours for the temperature change

13)



Made 4 identical plunges in a row to a final depth of 148 below surface.

$$(-148) \div (+4) = (-37)$$

Page 81-82 homework solutions

14) $(+45) \div (-5) = (-9)$

Ted returned 5 books to the library and received \$45 dollars back. How much had each book cost?

15) $(-12) \div (+6) = -2$

The temperature dropped for 6 hours for a total change of -12°C . How much did it drop each hour?

16) 6 cm to the left each minute (-6)

a) $(-36) \div (-6) = (+6)$

Takes 6 minutes for the snail to reach -36

b) 6 cm to the left each minute (-6)

$(+18) \div (-6) = (-3)$

3 minutes ago the snail was at $+18$

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#1 a)

$$a) (+9) \times (+10) = +90$$

$$b) (+6) \times (-11) = -66$$

$$c) (+96) \times (-16) = -1536$$

$$d) (+39) \div (+3) = +13$$

$$e) (-8) \times (+6) = -48$$

$$f) -36 \div +9 = -4$$

$$g) (-44) \div (-4) = +11$$

$$h) (-5) \times (-1) = +5$$

review

With word problems

When given a number and it is repeated and asked to find a total then $(_) \times (_) = (_)$

When given a number and it shared or group and given a total then $(_) \div (_) = (_)$

For modelling

i) Tile multiplication

Only use zero pairs when $(-) \times \#$ since it means remove groups of #

ii) Number line multiplication

Only use $(+) \times (\#) = (\text{Total stop}) \dots$ start at zero and

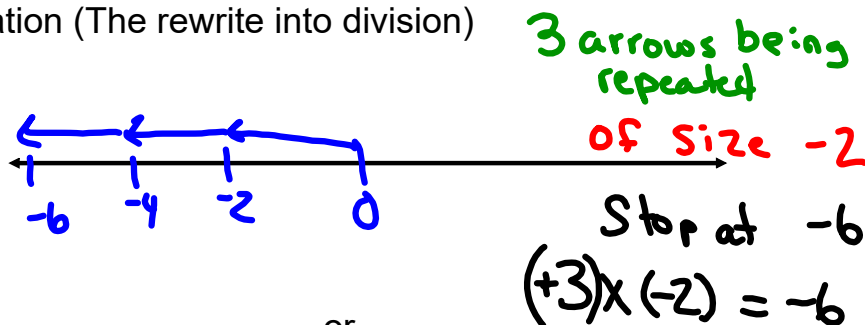
\nearrow # of jumps \nwarrow this is jump size with direction

Ex) $(+2) \times (-4) =$

2 jumps of size -4



iii) To use a number line for division always think of the reverse of multiplication (The rewrite into division)



or

$$(\text{Total length}) \div (\text{arrow size}) = \# \text{ of arrows}$$

$$(-6) \div (-2) = +3$$

$$(-6) \div (+3) = -2$$

review

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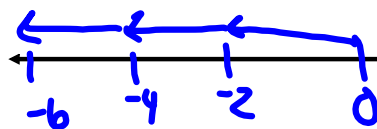
of jumps this is jump size with direction

Ex) $(+2) \times (-4) =$

2 jumps of size -4



iii) To use a number line for division always think of the reverse of multiplication (The rewrite into division)



3 arrows being repeated
of size -2
Stop at -6
 $(+3) \times (-2) = -6$

or

$(\text{Total length}) \div (\text{arrow size}) = \# \text{ of arrows}$

$$(-6) \div (-2) = +3$$

$$(-6) \div (+3) = -2$$

Class/Homework 8

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#1, #2, #6, #7, #8, #9a, #11

MODEL ONLY 1A THEN USE RULES FOR REST PART IN # 1

Find total is "X"
given total is \div

Short warm up quiz on (Tomorrow)

x and \div rules

Number line x and \div (Write the equation for a given number line)

Box Method

