



○ = -
● = +

Warm Up Grade 8



1) Use rules

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

same
multiply
 $(+77)$

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

same
 $(+28)$

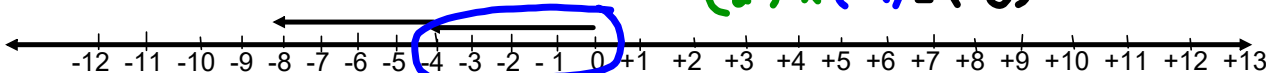
c) $(+14) \times (-2)$

diff
 (-28)

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

diff
 (-6)

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



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

Mult
 $(\text{arrows}) \times (\text{arrow size}) = \text{total}$

$(-8) \div (+2) = (-4)$
 $(-8) \text{ or } (-4) = (+2)$

3) Find the product using the distributive property

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

same

(show all work)

	20	5
30	$30 \times 20 = 600$	$5 \times 30 = 150$
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 $+12^{\circ}$.

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

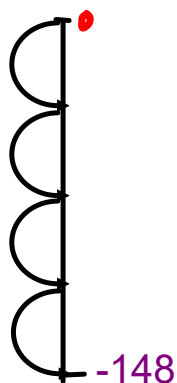
It took 4 hours for the change in temperature

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 $(\underline{\quad}) \times (\underline{\quad}) = (\underline{\quad})$

When given a number and it shared or group and given a total then $(\underline{\quad}) \div (\underline{\quad}) = (\underline{\quad})$

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

\bullet \nearrow \nwarrow \bullet
 # 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)



or

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

Sept. 15

Class/Homework 8

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#1, #2, #6, #7, #8, #9a, #11
 (Box)

No tiles use rules
 1 a, c, d Rules
 MODEL ONLY 1 B THEN USE RULES FOR REST PART IN # 1

Find total \Rightarrow multiply

Given total \Rightarrow divide

$$(\) \div (\) = +$$

same

$$(\) (\) = (-)$$

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

