Warm Up Grade 8

Sept. 20

Use the box method to find (-31) x (-26) = (+806)

	30	1
20	20 x 30 = 600	1 x 20 = 20
6	6 x 30 = 180	6 x 1 = 6

600
180
20
+ 6
806

Model (-3) x (+5) ⟹ (+5) x (-3) = (-15)

Remove 3 groups of +5

Remodel answer
= 00000 00000 00000

000 000 000 000 000

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11) Rose 3º each hour for a total change of +12º.

(+12) ÷ (+3) = (+4)

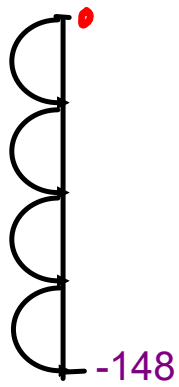
It took 4 hours for the change in temperature

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

(-20)÷(-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) ÷ (+4) = (-37)

Page 83 homework solutions ○ = - ● = +

1a) (-9) x (+4) = (- 36)

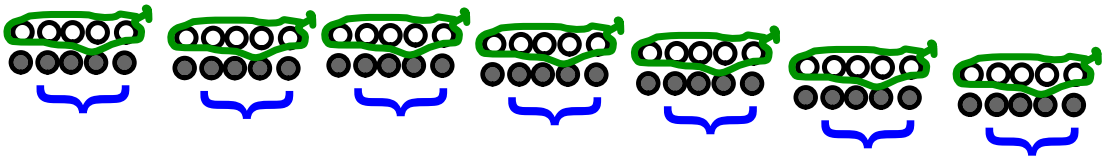
take away 9 groups of positive 4

zero pairs needed

1b) (-7) x (-5) = (+ 35)

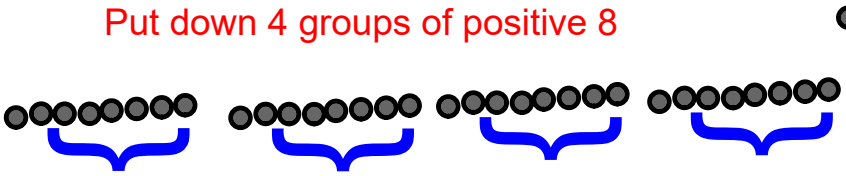
take away 7 groups of negative 5

zero pairs needed



1c) (+4) x (+8) = (+ 35)

Put down 4 groups of positive 8



1d) (+3) x (-5) = (-15)

Put down 3 groups of negative 5

Page 83 homework solutions

2) Glacier retreated 4m per day for 7 days.

(-2) x (+7) = (-14)

The glacier retreated 14 m in total.

3) Temp rose 4°C each hour for 5 hours

(+4) x (+5) = (+20)

The total temperature change is a rise of 20°C.

4) & 5)

a) (-8) x (+5) = (-40)

b) (-5) x (-3) = (+15)

c) (+12) x (-4) = (-48)

d) (+8) x (+9) = (+72)

6) a) (-20) x (+14)

Rethink (20) x (14)

= (20) x (10 + 4)

= (20 x 10) + (20 x 4)

= 200 + 80

= 280

put sign in

(-20) x (+14) = (-280)

b) (-19) x (-24)

Rethink (19) x (24)

= (10+9) x (20 + 4)

= (10 x 20) + (10 x 4) + (9 x 20) + (9 x 4)

= 200 + 40 + 180 + 36

= 456

put sign in

(-19) x (-24) = (+456)

c) (+40) x (+27)

Rethink (40) x (27)

= (40) x (20 + 7)

= (40 x 20) + (40 x 7)

= 800+ 280

= 1080

put sign in

(+40) x (+14) = (+1080)

d) (+13) x (-31)

Rethink (13) x (-31)

= (10+3) x (30 + 1)

= (10 x 30) + (10 x 1) + (3 x 30) + (3 x 1)

= 300 + 10 + 90 + 3

= 403

put sign in

(+13) x (-31) = (-403)

Page 83 homework solutions

7) Pool drains 35L per minute. Find how much water drained out of the pool in 30 min.

(-35) x (+30) =

Rethink

(35) x (30)

= (30 + 5) x (30)

= (30 x 30) + (5 x 30)

= 900 + 150

= 1050

(-35) x (+30) = -1050

Lost a total of 1050 L

8a) (+4) x (-8) = -32

8b) (-9) x (-6) = +54

8c) (-8) x (+7) = -56

8d) (-12) x (-1) = +12

9a) (+9) x (+3) = +27

9b) (-2) x (-7) = +14

9c) (+7) x (-3) = -21

9d) (-13) x (+2) = -26

11) Water level dropped 5 cm per hour. The total drop was 30 cm. How long did this take?

(-30) ÷ (-5) = +6

It took 6 hours for the water level to drop a total of 30 cm.

12) (-18) ÷ (+3)

The total debt to the librarian by 3 students was $18. If each person owed the same amount then how much did each student owe?

Rules for Division

(-) ÷ (-) = (+)

(+) ÷ (+) = (+)

Same

(-) ÷ (+) = (-)

(+) ÷ (-) = (-)

diff

Same as the multiplication rules

Fill in the blanks

1) (-9) x (-8) = (+72)

same

2) (-28) ÷ (+4) = (-7)

diff

3) (+60) ÷ (-5) = (-12)

diff

Division can be written...

means ÷

$$\frac{(-100)}{(+25)} = (-4)$$

diff

Class/Homework

Page 87-88

#4,
#5(a,c,e,g,i),
#8(a,d),
#9(a,c),
#10(a,b,c,d),
#11(a,b),
#12(a,b),
#15(a,b,d),
#16

Sept. 20

Answers on Page 501

Check once done.

Given total ⇒ (÷)

11) a) $(-56) \div (-7) = (\quad)$

16) ( ) ÷ ( ) = quotient

a) (+20) ÷ (+5) = (+4)

b) (-6) ÷ (-2) = (+3)

divide any 2 neg give posit

c) (+20) ÷ (+4) = (+5)

!!

*d) (+2) ÷ (+2) = (+1)

Same # ÷ Same # = always give +1

e) (+2) ÷ (-2) = (-1)

divide opposite intgers give -1

Class/Homework 8O

Page 81
#12 & #13

Page 83
#1 to #12 leave out #10

Quiz Tomorrow (Friday)

on multiplication modelling & rules

Division Rules