Warm Up Grade 8

Similar to tomorrow Quiz

1) Use rules

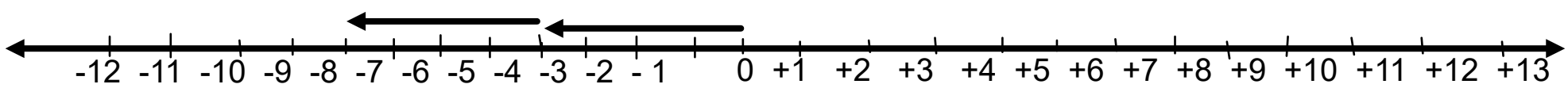
a) (-7) (-11) (+77)

b) (-56)÷(-2) (+28)

c) (+14) x (-2) = (-28)

d) (+24)÷(-4 (-6)

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



Stop ÷ (#arrows) = (Size of arrows) (-8) ÷ (+2) = (-4)

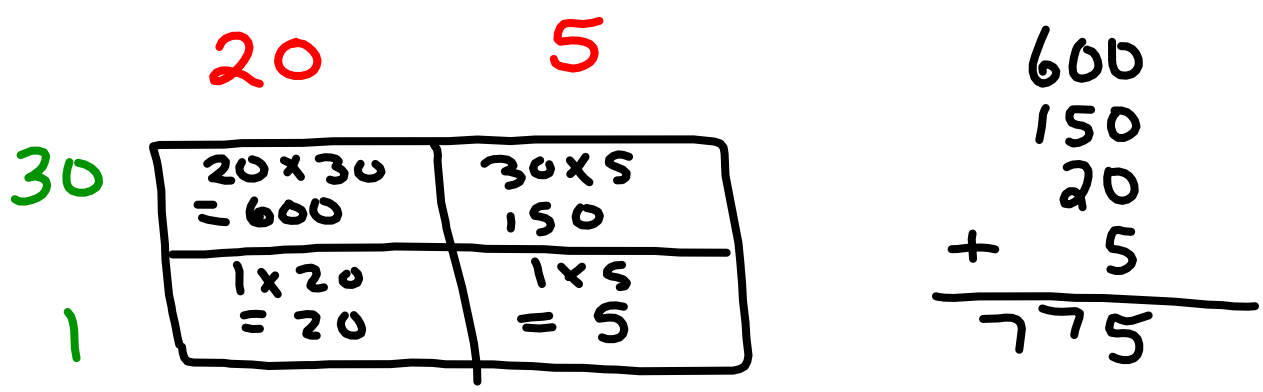
OR

Stop ÷ (Size of arrow) = (#arrows)

OR (-8) ÷ (-4) = (+2)

3) Find the product using the distributive property box method (show all work)

(-25) x (-31) = (+775)



600
150
20
\+ 5
775

HW Solutions

10.Use Rules to find the Quotient (No Modeling)

a) $(+24) \div (+8)$ =(+3)

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

c) $(+28) \div (-7)$ =(-4)

d) $(-25) \div (+5)$ =(-5)

e) $(-14) \div (+2)$ =(-7)

f) $(+18) \div (-9)$ =(-2)

Write a divsion equation for each word problem

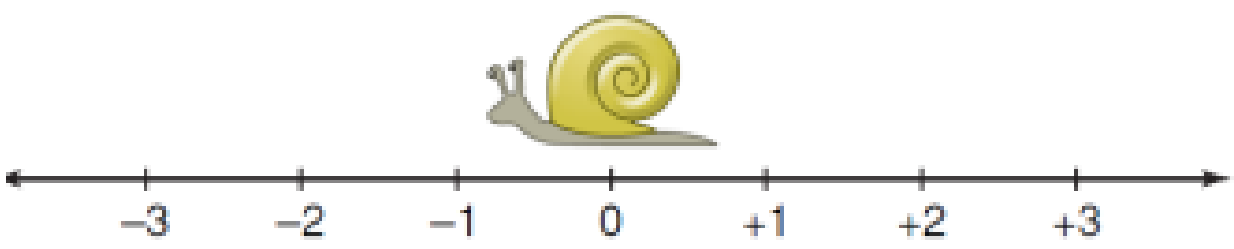
12. The temperature fell 4°C each hour for a total change of –20°C. Use integers to find the number of hours the change in temperature took.

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

(-20)÷(-4) = (+5)

It took 5 hours for the temperature change

16. A snail travels along a number line marked in centimetres. A distance of 1 cm to the right is represented by +1. A distance of 1 cm to the left is represented by –1. The snail moves 6 cm to the left each minute. Jump size is 6 cm



Draw a model to represent each answer. Write a division equation for each model.

a) The snail is at 0 now. After how many minutes will the snail be at –36 on the number line?

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

a) (-36) ÷ (-6) = (+6)

Takes 6 minutes for the snail to reach -36

Snail is now at zero,

b) When was the snail at +18 on the number line?

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

(+18) ÷ (-6) = (-3)

3 minutes ago the snail was at +18

17 Evaluate.

a) $(+9) \times (+10)$=(+90) b) $(+6) \times (-11)$ =(-66) c) $(+96) \div (-16)$ =(-6)

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)

18) Find the missing term

a) ____ ÷ (-6) = (-10) (+60)

b) (+44) ÷ ____ = (-4) (-11)

c) (+24) ÷ ____ = (-6) (-4)

c) (+48) ÷ ____ = (+4) (+12)

d) (+14) x (-2) = ____ (-28)

e) (-15) x ____ = (+105) (-7)

f) (____) ÷ (-10) = (-5) (+50)

g) (-18) x (-4) = ____ (+72)

h) (-54) ÷ ____ = (+9) (-6)

i) (___) ÷ (-12) = (+96) (-1152)

review

With word problems

When given a number and it is repeated and asked to find a total then (__) x (__) = (__)

When given a number and it shared or group and given a total then (__) ÷ (__) = (__)

For modelling

i) Tile multiplication

Only use zero pairs when (-) x # since it means remove groups of #

ii) Number line multiplication

Only use (+) x (#) = (Total stop).....start at zero and

this is jump size with direction

# of jumps

Ex) (+2) x (-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

(Total length) ÷ (arrow size) = # of arrows

Rules for Division

(-) ÷ (-) = (+)

(+) ÷ (+) = (+)

Same as the multiplication rules

(-) ÷ (+) = (-)

(+) ÷ (-) = (-)

Fill in the blanks

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

2) (-28) ÷ (+4) = (-7)

3) (+60) ÷ (-5) = (-12)

Division can be written...

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

Same as

$$= (-4)$$

Class/Homework 8

WS 83 87 (Next Slides)

Short warm up quiz on (Tomorrow)

x and ÷ rules

Number line ÷ (Write the equation for a given number line)

Box Method

WS 83

8. Copy each equation. Replace $\square$ with an integer to make the equation true.

a) $(+4) \times \square = -32$

b) $\square \times (-6) = +54$

c) $(-8) \times \square = -56$

d) $\square \times (-1) = +12$

9. Write 2 related multiplication equations for each division equation.

a) $(+27) \div (+3) = +9$

$(+9) \times (+3) = (+27)$

$(+3) \times (+9) = (+27)$

b) $(+14) \div (-7) = -2$

c) $(-21) \div (-3) = +7$

d) $(-26) \div (+2) = -13$

10) Find the answer to division.

Write each division as 2 multiplication equations

Model division on a number line

a) $(+20) \div (+4)$

b) $(-24) \div (-6)$

c) $(-36) \div (+4)$

11. The water level in a well dropped 5 cm each hour. The total drop in the water level was 30 cm. Use integers to find how long it took for the water level to change.

Write an equation and state the answer in sentenced form.

12) Write an equation for the following word problem and state the answer in sentenced form.

Maurice spent a total of $18 in 3 days, then how much did he spend per day?

13) Raj made withdraws of $19 from his account. He withdrew a total of $133. Use integers to find out how many withdraws Raj made. (Write an equation)

14) a) $(-8) \div (-4)$ b) $\frac{-9}{+3}$ c) Divide: $\frac{+96}{-6}$

15) Find the answer

a) $(-45) \div (+5)$

b) $(+16) \div (+8)$

c) $(+24) \div (-2)$

d) $(-30) \div (-6)$

16) Find the quotient

a) $(+12) \div (+4)$

b) $(-15) \div (-3)$

c) $(-18) \div (+9)$

d) $(+81) \div (-9)$

e) $(+72) \div (-8)$

f) $(-64) \div (-8)$

g) $(-14) \div (+1)$

h) $(+54) \div (-6)$

i) $(-27) \div (-3)$

j) $(+32) \div (+4)$

17. **a)** Use each multiplication fact to find a related quotient.

i) Given $(+8) \times (+3) = +24$,
find $(+24) \div (+3) = \square$.

ii) Given $(-5) \times (-9) = +45$,
find $(+45) \div (-9) = \square$.

iii) Given $(-7) \times (+4) = -28$,
find $(-28) \div (+4) = \square$.

18) Write 2 related division facts for each multiplication fact.

a) $(-6) \times (+5) = -30$

b) $(+7) \times (+6) = +42$

c) $(+9) \times (-4) = -36$

d) $(-4) \times (-8) = +32$

19. Divide.

a) $\frac{-20}{-5}$ **b)** $\frac{+21}{-7}$

c) $\frac{-36}{+4}$ **d)** $\frac{0}{-8}$

20.) Copy each equation. Replace $\square$ with an integer to make the equation true.

a) $(+25) \div \square = +5$

b) $\square \div (-9) = +10$

c) $(-63) \div \square = -7$

d) $\square \div (-3) = +7$

e) $\square \div (+5) = -12$

f) $\square \div (-7) = -7$

g) $\square \div (-6) = +8$

h) $\square \div (-4) = -11$

21.) Nirmala borrowed $7 every day. She now owes $56. For how many days did Nirmala borrow money?

a) Write this problem as a division expression using integers.

b) Solve the problem.

22) The temperature dropped a total of 15°C over a 5-h period. The temperature dropped by the same amount each hour. Find the hourly drop in temperature.

23)

Assessment Focus Suppose you divide two integers. The quotient is an integer. When is the quotient:

a) less than both integers?

b) greater than both integers?

c) between the two integers?

d) equal to +1?

e) equal to −1?

f) equal to 0?

Use examples to illustrate your answer

Show your work.