○ = -

● = +

Warm Up Grade 8

Sept. 14 ,2016

1) Use tile to model the product of (-4) x (-2)

= ●● ●● ●● ●● ①

take away of (-2)

4 groups

= ●● ●● ●● ●● ①

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

①

2) Find the product using the distributive property Box method

a) (-21) x (46)

$= (-20)(+40) + (+40)(-1) + (+6)(-20) + (+6) \times (-1)$

	-20	-1
+40	(-20)(+40) = -800	(+40)(-1) = (-40)
+6	(+6)x(-20) = -120	(+6)x(-1) = (-6)

-800
-120
- 40
+ - 6
966

$= (-800) + (-40) + (-120) + (-6)$

$= -966$

b) (-40) x (-34) = +1360

1200
+ 160
1360

$= (-30)(-40) + (-4)(-40)$

$(+1200) + (+160)$

$= +1360$

	-40
-30	(-30) x (-40) = +1200
-4	(-4) x (-40) = +160

$(+2) \times (+3) = +6$ ①

of +3

put down 2 groups

... ... ①

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#3 (a,b,c,d)
#4 (a,b,c,d,e,f,g,h,i,j)
#6 (a,c,e,g) USE distributive Property
#7 (b,d,f,h) Use The Distributive Property
#8 (a,b,g,h)

Homework Solutions

3a) $(-6) \times (+2) = (-12)$

b) $(+6) \times (+4) = (+24)$

c) $(+4) \times (-2) = (-8)$

d) $(-7) \times (-3) = (+21)$

4a) $(+8)(-3) = (-24)$

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

c) $(-3)(+9) = (-27)$

d) $(+7)(-6) = (-42)$

e) $(+10)(-3) = (-30)$

f) $(-7)(-6) = (+42)$

g) $(0)(-8) = 0$

h) $(+10)(-1) = (-10)$

i) $(-7)(-8) = (+56)$

j) $(+9)(-9) = (-81)$

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#8 (a,b,g,h)

Homework Solutions

*6a) $(+20) \times (+15)$

$(+20) \times [(+10) + (+5)]$

$(+20) \times (+10) + (+20) \times (+5)$

$(+200) + (+100)$

$= (+300)$

+20	(+10)	(+5)
	200	100

*6c) $(+50) \times (-32)$

$= (+50) \times [(-30) + (-2)]$

$= (+50) \times (-30) + (+50) \times (-2)$

$= (-1500) + (-100)$

$= (-1600)$

+50	-30	-2
	-1500	-100

6e) $(-60) \times (+13)$

$= (-60) \times [(+10) + (+3)]$

$= (-60) \times (+10) + (-60) \times (+3)$

$= (-600) + (-180)$

$= (-780)$

6g) $(+70) \times (+47)$

$= (+70) \times [(+40) + (+7)]$

$= (+70) \times (+40) + (+70) \times (+7)$

$= (+2800) + (+490)$

$= (+3290)$

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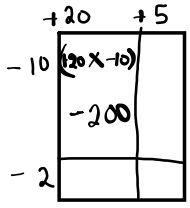
#8 (a,b,g,h)

Homework Solutions

*7b) $(+25) \times (-12)$

$(25) \times (12)$

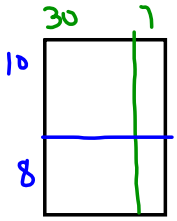


$= (20 \times 10) + (5 \times 10) + (2 \times 20) + (2 \times 5)$

$= 200 + 50 + 40 + 10$

$= 300$

$(+25) \times (-12) = (-300)$



*d) $(-37) \times (+18)$

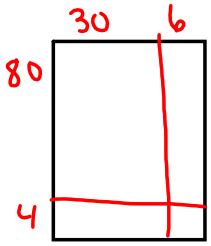
think
$(37) \times (18)$

$= (30 \times 10) + (10 \times 7) + (8 \times 30) + (7 \times 8)$

$= (300) + (70) + (240) + (56)$

$= 666$

$(-37) \times (+18) = (-666)$



f) $(+84) \times (-36)$

think
$(84) \times (36)$

$= (80 \times 30) + (80 \times 6) + (4 \times 30) + (6 \times 4)$

$= (2400) + (480) + (120) + (24)$

$= 3024$

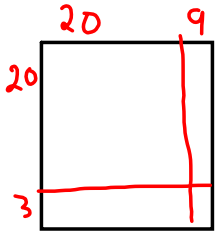
$(+84) \times (-36) = (-3024)$

h) $(+29) \times (+23)$

$= (20 \times 20) + (20 \times 9) + (20 \times 3) + (3 \times 9)$

$= (400) + (180) + (60) + (27)$

$= 667$



$(+29) \times (+23) = (+667)$

$(-45) \times (+21)$

$= -945$

	−40	−5
+20	(+20)(−40) = −800	(+20)(−5) = −100
+1	(+1)(−40) = −40	(+1)(−5) = −5

$$\begin{array}{r} -800 \\ -100 \\ -\ 40 \\ -\ \ 5 \\ \hline -945 \end{array}$$

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#3 (a,b,c,d)
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#6 (a,c,e,g) USE distributive Property
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#8 (a,b,g,h)

Homework Solutions

a) $(+5) \times \underline{+4} = (+20)$

b) $\underline{-3} \times (-9) = (+27)$

g) $\underline{-30} \times (-6) = (+180)$

h) $\underline{-6} \times (+4) = (+24)$

Dividing Integers

reverse of multiplication

(+7) x (+4) = (+28) so we also know that (+28) ÷ (+7) =(+4)
(+28) ÷ (+4) = (+7)

(+5) x (-8) = (-40) so we also know that (- 40) ÷ (-8) = (+5)
and (-40) ÷ (+5) = (-8)

(-9) x (+ 3) = (-27) so we also know that (-27) ÷ (+3) = (-9)
and (-27) ÷ (-9) = (+3)

(-6) x (-2) = (+12) so we also know that (+12) ÷ (-6) = (-2)
and (+12) ÷ (-2) = (-6)

From the above information, what can you determine about

(a) a positive divided by a positive?
the answer will always be positive

(b) a positive divided by a negative?
The answer will always be negative

(c) a negative divided by a positive?
The answer will always be negative

(d) a negative divided by a negative?
The answer will always be positive.

Important

(+)÷(+) = (+)

(+)÷(-) = (-)

(-)÷(+) = (-)

(-)÷(-) = (+)

Quotient is the number that results from the division of one number by another.

24 ÷ 3 = 8 quotient

dividend

divisor

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

Rethink to multiplying if struggling

$(+7) \times (-3) = -21$

Divide the following using rules:

a) (-21) ÷ (+7) = -3

different we know sign is (-) on answer

b) (-45) ÷ (-9) = +5

Same so answer (+)

c) (+24) ÷ (+2)

= +12

Same

(+) ÷ (+) OR (-) ÷ (-) = +

Different

(-) ÷ (+) = (-)

(+) ÷ (-)

Class/Homework

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Complete

- #3(a,d)
- #4(a,b,c)
- #5
- #6(a,c,e)
- #7a(i), b(i)
- #8(a,c,e)

NO MODELLING

Just Use Rules

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#9, #11, #13, #18

try

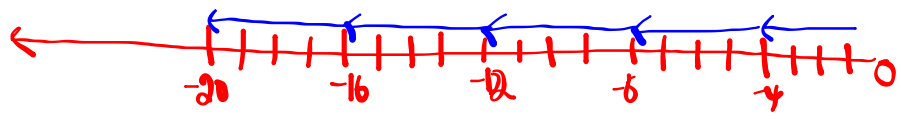
not HW

Quiz Friday

*on multiplication modelling with tiles & rules & Box Method

*Division Rules

4a)



(# arrows) x (size of arrow) = (Stop)

$(5) \times (-4) = (-20)$

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

or

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