○ = -

● = +

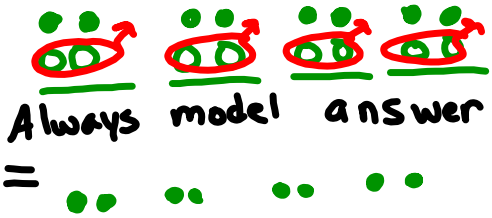
Warm Up Grade 8

Sept. 9 ,2019

1) Use tile to model the product of (-4) x (-2) = +8

take away 4 groups of -2

same



2) Find the product using the distributive property Box Method

a) (-21) x (46)

diff

= -966

	40	6
20	20x40 = 800	20x6 = 120
1	1x40 = 40	1x6 = 6

800
120
40
6
+
966

Add to your notes

b) (-40) x (-34)

same

= +1360

	40
30	30x40 = 1200
4	4x40 = 160

1200
160
1360

#3) Represent the following using integer operation

The score decreased 2 points for 3 innings. What is the total change using integers?

(-2) x (+3) = -6

The total change is -6 pts.

QUIZ Tomorrow SIMILAR to this warm up

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

Homework Solutions

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

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

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

$(+200) + (+100)$

$= (+300)$

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

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

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

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

$= (-1600)$

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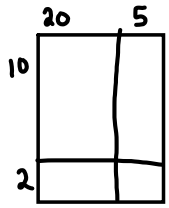
#3 (a,b,c,d)
#4 (a,b,c,d,e,f,g,h,i,j)
#6 (a,c,e,g) USE distributive Property
#7 (b,d,f,h) Use The Distributive Property
#8 (a,b,g,h)

Homework Solutions



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

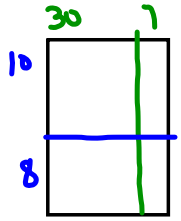
$(25) \times (12)$

$= (20\times10) + (5\times10) + (2\times20) + (2\times5)$

$= 200 + 50 + 40 + 10$

$= 300$

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



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

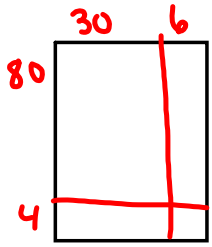
think
$(37) \times (18)$

$= (30\times10) + (10\times7) + (8\times30) + (7\times8)$

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

$= 666$

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



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

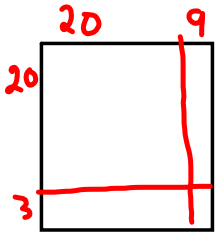
think
$(84) \times (36)$

$= (80\times30) + (80\times6) + (4\times30) + (6\times4)$

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

$= 3024$

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



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

$= (20\times20) + (20\times9) + (20\times3) + (3\times9)$

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

$= 667$

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

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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

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)
and (+28) (+4) = (+7) (+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. (-)÷(-) = (+)

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

24 ÷ 3 = 8 quotient

$72 \div \_\_ = 9$

$9 \times ? = 72$

8

Division Rules are the same as Multiplication

Study

Signs the same

the solution is +

(+)÷(+) = (+)

(-)÷(-) = (+)

Signs are different

the solution is -

(+)÷(-) = (-)

(-)÷(+) = (-)

different

(-21) ÷ (+7) = -3

Rethink to multiplying if struggling

(_) x ( ) =

Divide the following using rules:

a) (-21) ÷ (+7)

diff sign so neg

-3

b) (-45) ÷ (-9)

same sign

+5

c) (+24) ÷ (+2)

same sign

+ 12

Class/Homework

* End Total ÷ Arrow Size = # arrows

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#3(a,d)

#4(a,b,c)

#5

#6(a,c,e)

#7a(i), b(i)

#8(a,c,e)

3a) (+25) ÷ (+5) = (+5)

(+5) x (+5) = (+25)

NO MODELLING

Just Use Rules

End Total ÷ arrow size = # of arrow

4a) (-20) ÷ (-4) = +5

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~~#9~~, #11, ~~#13~~, ~~#18~~

Quiz Tomorrow (Tuesday)

*on multiplication modelling with tiles & rules & Box Method

Quiz Wednesday

*Division Rules, #line for division, & multiplication using box method