Quiz Wednesday on rules for add, subtract, multiply and divide Integers

Test- in 2 days (_____)

Warm up

Add,subtract, multiply or divide (Use rules)

(show work for subtract)

1) (+8) x (+9)

= (+72)

2) (-7) x(-5)

= (+35)

3) (+4

= (-13)

4) (-2) - (+13)

= (-2) + (-13) (opp)

= (-15)

4) (-18) ÷ (+9)

= (-2)

5) (-7)

= (-18)

6) (+14) x (-2)

= (-28)

7) (+7) - (-10)

= (+7) + (+10) (opp)

= (+17)

8) (-15) ÷ (-3

= (+5)

9) (-19) + (+2) - (+3)

= (-17) — (+3)

(opp)

= (-17) + (-3)

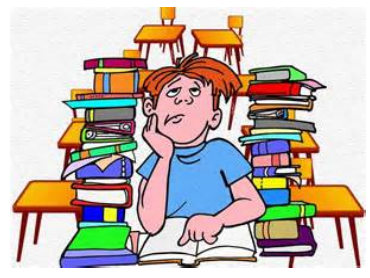
= (-20)

Warm Up Grade 8

Name:_____

14

v1



Answer the following. (No Calculators. WATCH the operation. They are mixed)

1) (-10) x (-3) = ___ 2) (-36) ÷ (+6) = ___ 3) (-10) x (+2) = ___ 4) (+34)+(-3) = ___

5) (-60) ÷ (+5) = ___ 6) (-17) - (-4)= ____ 7) (-21) + (-7) = ___ 8) (+24) ÷ (-3) = ___

9) (+20) + (-11) = ___ 10) (-23) + (-1) = ___ 11) (+4) x (-5) = ___ 12) (+15) - (-1)

12

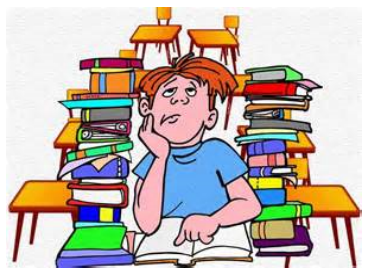
Show work (Do the question in steps...not just the final answer)

13) (+18) - (-2) + (+4)

2

Name:_____

Warm Up Grade 8



v2

14

Answer the following . (No Calculators. WATCH the operation. They are mixed)

1) (+20) x (-2) = ___ 2) (-32) ÷ (-4) = ___ 3) (-8) x (-2) = ___ 4) (-18)+(-3) = ___

5) (+20) ÷ (+5) = ___ 6) (+22) - (-4)= ____ 7) (-14) + (-3) = ___ 8) (-45) ÷ (+9) = _

9) (-10) + (+1) = ___ 10) (-23) + (-1) = ___ 11) (-8) x (-5) = ___ 12) (-10) - (-6) =

12

Show work (Do the question in steps...not just the final answer)

13) (-12) + (+4) - (-3)

2

Homework Solutions

Sheet 283

1a) $(+5)-(+2)$

$=+5+(-2)$

$=+3$

b) $(-3)-(+6)$

$(-3)+(-6)$

$=-9$

c) $(-6)-(+5)$

$(-6)+(-5)$

-11

d) $(-7)-(-1)$

$(-7)+(+1)$

-6

e) $(+3)-(+8)$

$(+3)+(-8)$

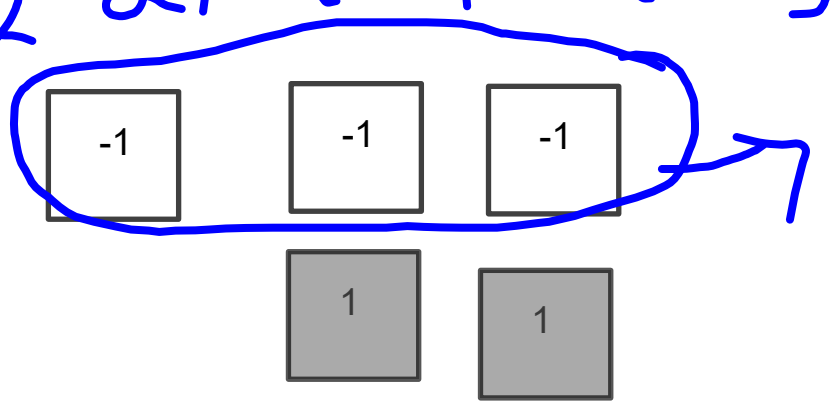
-5

f) $(+7)-(-9)$

$(+7)+(+9)$

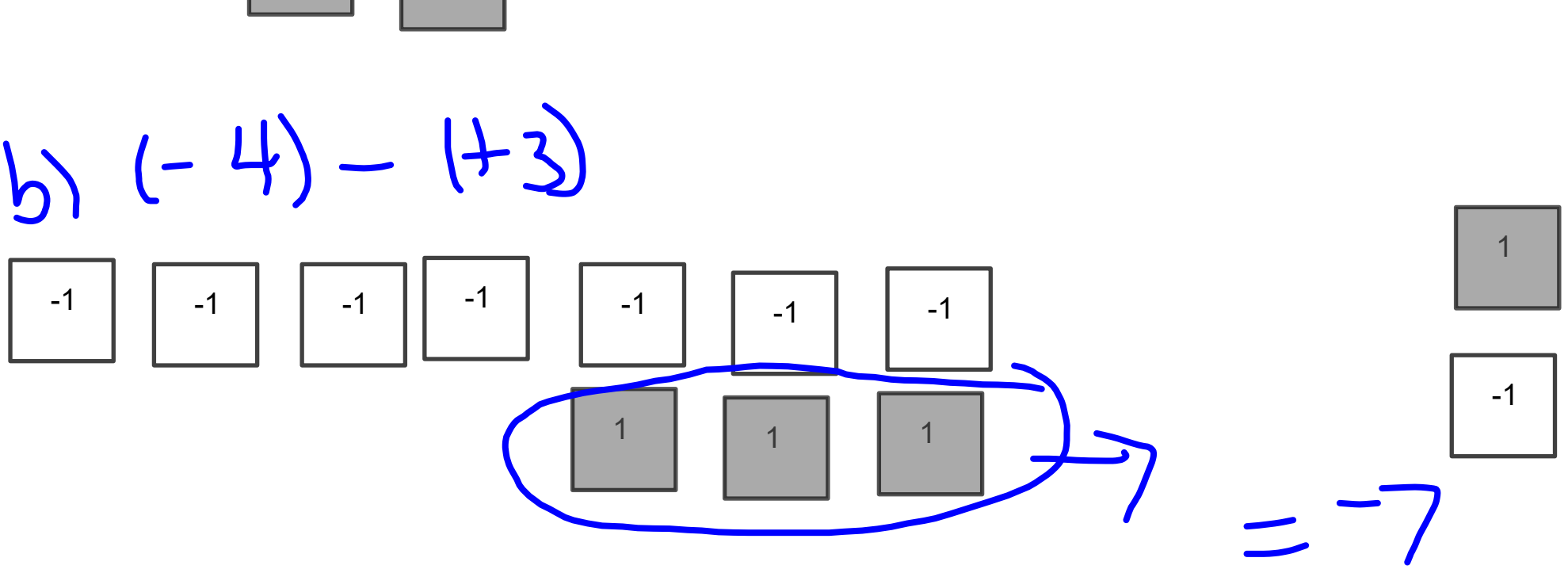
$+16$

2 a) $(-1)-(-3)$



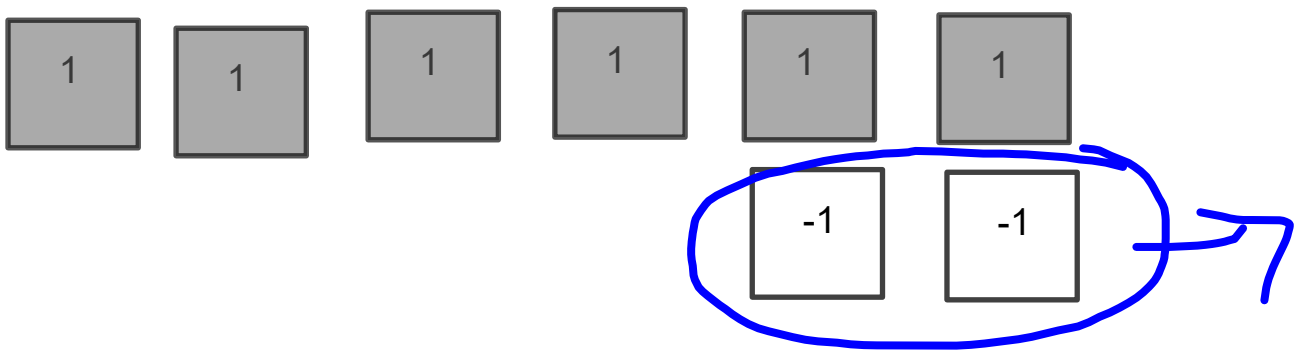
$+2$

b) $(-4)-(+3)$



$=-7$

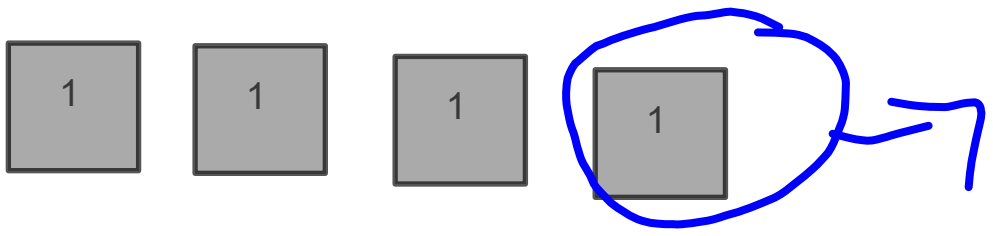
c) $(+4)-(-2)$



$=+6$

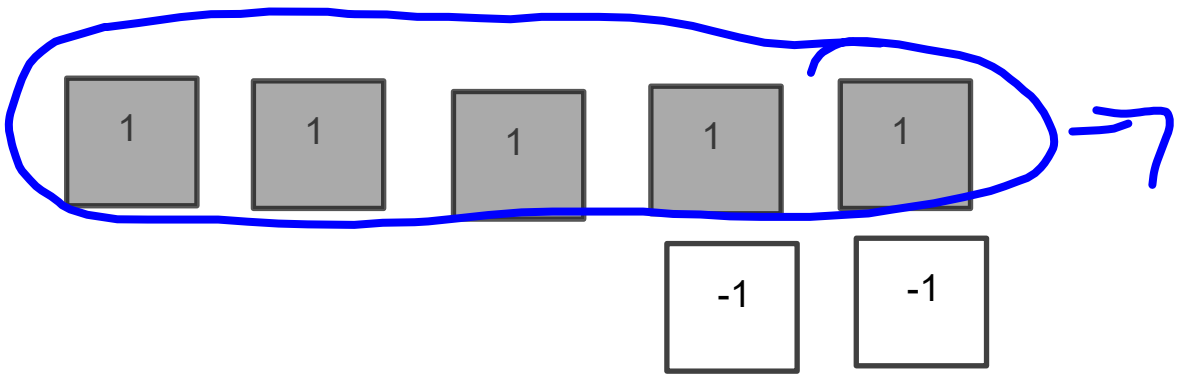
Homework Solutions

d) (+4) − (+1)

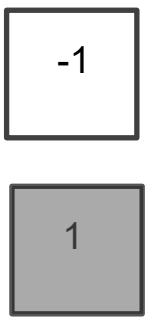


+3

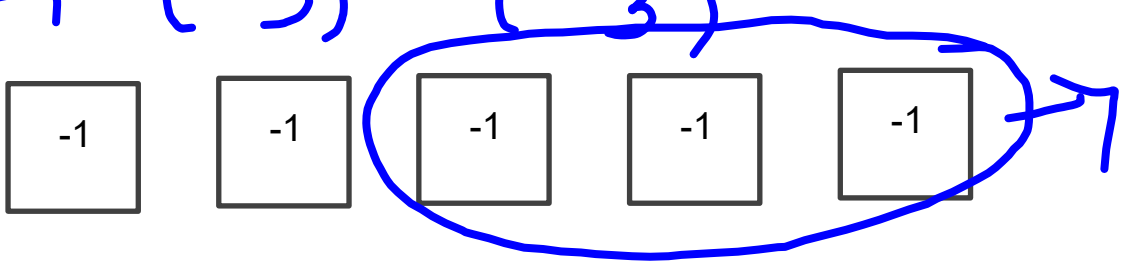
e) (+3) − (+5)



= −2

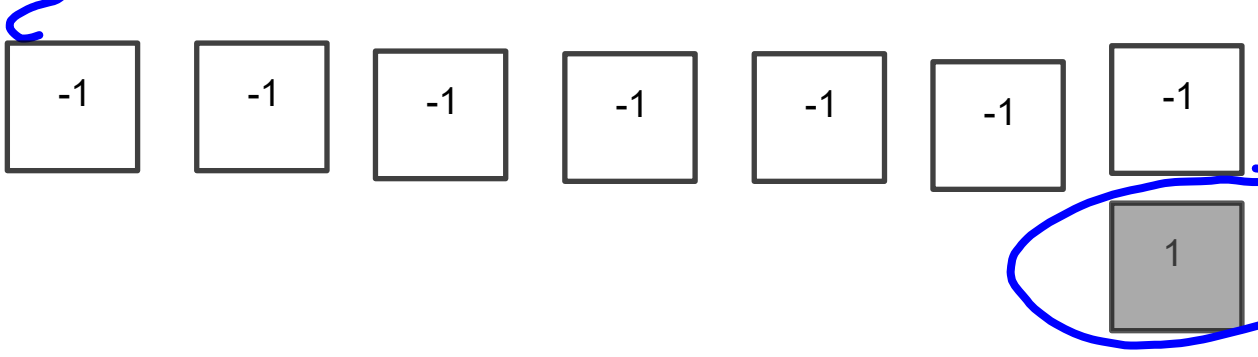


f) (−5) − (−3)



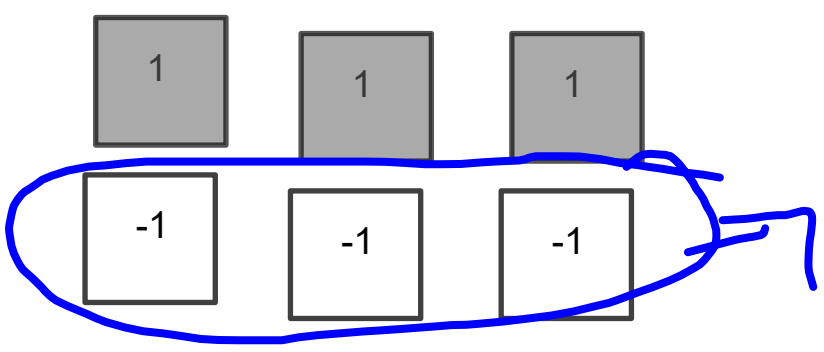
= −2

g) (−6) − (+1)



= −7

h) 0 − (−3)



= +3

Homework Solutions

3 a) $(+5)-(+4)$

$=+1$

b) $(+6)-(-8)$

$(+6)+(+8)$

$+14$

c) $(-7)-(-1)$

$(-7)+(+1)$

-6

d) $(+4)-(-7)$

$(+4)+(+7)$

$+11$

e) $(-3)-(+8)$

$(-3)+(-8)$

-11

f) $(+5)-(-7)$

$(+5)+(+7)$

$+12$

g) $0-(+2)$

$0+(-2)$

$=-2$

h) $(-20)-(-11)$

$-20+(+11)$

-9

i) $(+6)-(-6)$

$(+6)+(+6)$

$+12$

j) $(-8)-(+8)$

$-8+(-8)$

-64

Homework Solutions

4. $(+2) - (-21)$

$(+2) + (+21)$

$+23$

The temperature increased 23°

5a) $(-2) - (+3)$

$(-2) + (-3)$

-5

$(+3) - (-2)$

$(+3) + (+2)$

$+5$

b) $(-5) - (-3)$

$(-5) + (+3)$

-2

$(-3) - (-5)$

$(-3) + (+5)$

$+2$

Order is important when subtracting.

6 a) $(-5) - (-1) - (+3)$

$(-5) + (+1) + (-3)$

$= -7$

b) $(-4) - (-6) - (-1)$

$-4 + (+6) + (+1)$

$+3$

c) $(-5) - (+8) - (+6)$

$(-5) + (-8) + (-6)$

-19

d) $(+10) - (+3) - (-7)$

$+7 + (+7)$

$+14$

e) $(-2) - (-8) - (+4)$

$(-2) + (+8) + (-4)$

$+2$

f) $(-3) - (-3) - (-7)$

$0 + (+7)$

$+7$

g) $(+4) - (-1) - (-5)$

$(+4) + (+1) + (+5)$

$+10$

h) $(-3) - (-4) - (+5)$

$(-3) + (+4) + (-5)$

-4

Section 2.5 Order of Operations with Integers

Order of Operations

We have already learned that you can add or multiply in any order, but that order matters with subtraction and division. Therefore, if you have a question that contains more than one operation, the order in which you answer the question is very important.

There is a set of rules to follow. Often students remember the order, by remembering the word BEDMAS. That is, first you solve anything that is inside the brackets. Next, you simplify any exponents. Then, do all the multiplication and division in the question, in the order it occurs from left to right. Finally, you do the addition and subtraction in the order it occurs from left to right.

B - Brackets
E - Exponents
D Division and Multiplication, in the order
M it occurs from left to right.
A Addition and Subtraction, in the order it
S - occurs from left to right.

Examples:

B E D M A S

a) $6 - 2 \times 4$

$= 6 - 8$

$= (-2)$

b) $4 \times 4 + 2 - 8 \div 4$

$= 16 + 2 - 8 \div 4$

$= 16 + 2 - 2$

$= 18 - 2$

$= \boxed{16}$

c) $(-9) \times (-3) - (+4) \times (-5)$

$= (+27) - (+4) \times (-5)$

$= (+27) - (-20)$ (add / opp)

$= (+27) + (+20)$

$= (+47)$

d) $(+6) \times (+8) \div (-4) \times (+3)$

$= (+48) \div (-4) \times (+3)$

$= (-12) \times (+3)$

$= \boxed{-36}$

e) $5 \times 5 - (8 - 2 \times 3)$

$= 5 \times 5 - (8 - 6)$

$= 5 \times 5 - 2$

$= 25 - 2$

$= \boxed{23}$

f) $2 + 8 \times 4 - (9 + 1)$

$2 + 8 \times 4 - (10)$

$2 + 32 - (10)$

$34 - 10$

$\boxed{24}$

g) $6 - 4 \times 4 \div 8 \times (2 + 1)$

$= 6 - 4 \times 4 \div 8 \times (3)$

$= 6 - 16 \div 8 \times (3)$

$= 6 - 2 \times (3)$

$= 6 - 6$

$= \boxed{0}$

h) $4 \times 5 \times 5 - [8 - (-3)(+5)]$

$= 4 \times 5 \times 5 - [8 - (-15)]$ (add / opp)

$= 4 \times 5 \times 5 - [8 + (+15)]$

$= 4 \times 5 \times 5 - (+23)$

$= 20 \times 5 - (+23)$

$= (100) - (+23)$

$= \boxed{+77}$

Examples:

a) $6 - 2 \times 4$

$6 - 8$ (opp)

$6 + (-8)$

$= -2$

b) $4 \times 4 + 2 - 8 \div 4$

$16 + 2 - 8 \div 4$

$16 + 2 - (2)$

$18 - (2)$

$= 16$

c) $(-9) \times (-3) - (+4) \times (-5)$

$(+27) - (+4) \times (-5)$

$(+27) - (-20)$

$(+27) + (+20)$ (add, opp)

$= (+47)$

d) $(+6) \times (+8) \div (-4) \times (+3)$

$(+48) \div (-4) \times (+3)$

$(-12) \times (+3)$

$= (-36)$

e) $5 \times 5 - (8 - 2 \times 3)$

$= 5 \times 5 - (8 - 6)$

$= 5 \times 5 - (2)$

$= (25) - (2)$

$= \boxed{23}$

f) $2 + 8 \times 4 - (9 + 1)$

$= 2 + 8 \times 4 - (10)$

$= 2 + 32 - (10)$

$= 34 - (10)$

$= \boxed{24}$

g) $6 - 4 \times 4 \div 8 \times (2 + 1)$

$6 - 4 \times 4 \div 8 \times (3)$

$= 6 - 16 \div 8 \times (3)$

$= 6 - (2) \times (3)$

$= 6 - (6)$

$= \boxed{0}$

h) $4 \times 5 \times 5 - [8 - (-3)(+5)]$

$= 4 \times 5 \times 5 - [8 - (-15)]$

$= 4 \times 5 \times 5 - [8 + (+15)]$

$= 4 \times 5 \times 5 - [+23]$

$= (20) \times 5 - (+23)$

$= 100 - (+23)$

$= \boxed{+77}$

Example:

$$\frac{[\ 16 - (-4)\ ] \times (-3)}{3(-2)}$$ ⇐ ÷

Hint: Evaluate Numerator and Denominator separately

Step 1) Solve top

Step 2) Solve bottom

Step 3) Top ÷ bottom

Top $[16 - (-4)] \times (-3)$

add opp

$[16 + (+4)] \times (-3)$

$(+20) \times (-3)$

Top → -60

Bottom ⇒ $3(-2)$

-6

Top ÷ Bottom

$(-60) \div (-6)$

$= +10$

Class/Homework

WS 92

3,5,6,7 MUST SHOW WORK

~~Test in 2 days~~ Quiz: 2 Wednesday

WS 92

3) Show all work to evaluate

a) $7 + (-1) \times (-3)$

b) $(-18) \div (-6) - (-4)$

c) $6 + (-4) - (-2)$

d) $(-2)[7 + (-5)]$

e) $(-3) \times (-4) \div (-1)$

f) $8 - 3 + (-4) \div (-1)$

5. Elijah evaluated this expression as shown.

$$\begin{aligned} 3 - (-5) + 8(-4) &= 3 - (-5) + (-32) \\ &= 3 - (-37) \\ &= 40 \end{aligned}$$

Is Elijah's solution correct? If your answer is yes, explain the steps Elijah took. If your answer is no, what error did Elijah make? What is the correct answer? Show your work.

6. **a)** Evaluate.

i) $12 \div (2 \times 3) - 2$

ii) $12 \div 2 \times (3 - 2)$

b) Why are the answers different? Explain.

7. Evaluate. State which operation you do first.

a) $7(4) - 5$

b) $6[2 + (-5)]$

c) $(-3) + 4(7)$

d) $(-6) + 4(-2)$

e) $15 \div [10 \div (-2)]$

f) $18 \div 2(-6)$