



WARM UP GRADE 8

wed. Sept. 25

Section 2.5 Order of Operations with Integers
continued

$$\begin{aligned}
 1) \quad & 2 + (-5) \times [3 + 7 \times (-2)] \\
 & = 2 + (-5) \times [3 + (-14)] \\
 & = 2 + (-5) \times [-11] \\
 & = 2 + (+55) \\
 & = +57
 \end{aligned}$$

$$\begin{aligned}
 2) \quad & 50 \div [10 - (2 + 9)] \times 2 \\
 & = 50 \div [10 - (11)] \times 2 \\
 & = 50 \div [(+10) + (-11)] \times 2 \\
 & = (+50) \div (-1) \times 2 \\
 & = (-50) \times 2 \\
 & = -100
 \end{aligned}$$

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Homework Solutions #7 TO 13, 15, 17

$$\begin{aligned}
 7a) \quad & \underline{7(4)} - 5 \\
 & 28 - 5 \\
 & 23
 \end{aligned}$$

$$\begin{aligned}
 b) \quad & \underline{6[2 + (-5)]} \\
 & 6 \times (-3) \\
 & -18
 \end{aligned}$$

$$\begin{aligned}
 c) \quad & \underline{(-3) + 4(-7)} \\
 & (-3) + (-28) \\
 & -31
 \end{aligned}$$

$$\begin{aligned}
 d) \quad & \underline{(-6) + 4(-2)} \\
 & -6 + (-8) \\
 & -14
 \end{aligned}$$

$$\begin{aligned}
 e) \quad & \underline{15 \div [10 \div (-2)]} \\
 & 15 \div (-5) \\
 & -3
 \end{aligned}$$

$$\begin{aligned}
 f) \quad & \underline{18 \div 2(-6)} \\
 & 9 \times (-6) \\
 & -54
 \end{aligned}$$

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$$8a) 6(5-7) - 3$$

$$6 \times (5+(-7)) - 3$$

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

$$\underline{-12} + (-3)$$

$$\underline{-15}$$

$$b) 4 - [5 + (-11)]$$

$$4 - (-6)$$

$$4 + (+6)$$

$$+10$$

$$c) [4 - (-8)] \div 6$$

$$[4 + (+8)] \div 6$$

$$12 \div 6$$

$$2$$

$$d) 8 - 66 \div (-11)$$

$$8 - (-6)$$

$$8 + (+6)$$

$$+14$$

$$e) (-24) \div 12 + (-3)(-4)$$

$$(-2) + (+12)$$

$$+10$$

$$f) 6(-3) + (-8)(-4)$$

$$-18 + (+32)$$

$$+14$$

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Homework Solutions

$$9a) \frac{(-7) \times 4 + 8}{4} = \frac{-20}{4}$$

$$\begin{array}{r} \text{Top} \\ (-7) \times 4 + 8 \\ -28 + 8 \\ -20 \end{array}$$

$$b) \frac{4 + (-36) \div 4}{-5} = \frac{-5}{-5}$$

$$\begin{array}{r} \text{Top} \\ 4 + (-36) \div 4 \\ (+4) + (-9) \\ -5 \end{array} \quad +1$$

$$c) \frac{-32}{6(-2) - (-4)} = \frac{-32}{+16}$$

$$\begin{array}{r} (-6)(-2) - (-4) \\ +12 + (+4) \\ +16 \end{array} \quad -2$$

$$d) \frac{9}{(-3) + (-18) \div 3}$$

$$\begin{array}{r} (-3) + (-18) \div 3 \\ -3 + (-6) \\ -9 \end{array} \quad \begin{array}{r} = 9 \\ -9 \\ = -1 \end{array}$$

$$10. \frac{4(-3) + 7(-4)}{5(-1)} = \frac{-40}{-5}$$

Homework Solutions

$$\begin{array}{l} \text{Top} \\ 4(-3) + 7(-4) = +8 \\ (-12) + (-28) \\ -40 \end{array}$$

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$$b) \frac{[19 - (-5)] \div (-3)}{2(-2)} = \frac{-8}{-4}$$

$$\begin{array}{l} [19 - (-5)] \div (-3) \\ (19 + 5) \div (-3) \\ 24 \div (-3) \\ -8 \end{array} \quad \begin{array}{l} +2 \\ +2 \end{array}$$

$$c) \frac{32 \div 4 - (-28) \div (-7)}{12 \div (-4)} = \frac{+12}{-3}$$

$$\begin{array}{l} 32 \div 4 - (-28) \div (-7) \\ 8 - (-4) \\ 8 + (+4) \\ +12 \end{array} \quad \begin{array}{l} = -4 \\ = -4 \end{array}$$

$$d) \frac{12 - 4(-6)}{[3 - (-3)] \times (-3)} = \frac{+36}{-18}$$

$$\begin{array}{l} 12 - 4(-6) \\ 12 - (-24) \\ 12 + (+24) \\ +36 \end{array} \quad \begin{array}{l} [3 - (-3)] \times 3 \\ (3 + 3) \times (-3) \\ 6 \times (-3) \\ -18 \end{array}$$



$$11. (-40) - 2[-8 \div 2]$$

Homework Solutions

$$\begin{array}{l} -40 - 2 \times (-4) \\ -40 - (-8) \\ -40 + (+8) \\ -32 \end{array}$$

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Robert was correct

$$12. \frac{(-20) \div 2 - (-2)}{-10 - (-2)}$$

$$\begin{array}{l} -10 - (-2) \\ -10 + (+2) \\ -8 \end{array}$$

$$\begin{array}{l} (-20) \div [2 - (-2)] \\ -20 \div (2 + 2) \\ -20 \div +4 \\ -5 \end{array}$$

$$b) \frac{-21 + 6 \div 3}{-21 + 2}$$

$$\begin{array}{l} -21 + 2 \\ -19 \end{array}$$

$$\begin{array}{l} (-21 + 6) \div 3 \\ -15 \div 3 \\ -5 \end{array}$$

$$c) \frac{10 + 3 \times 2 - 7}{10 + 6 - 7}$$

$$\begin{array}{l} 10 + 6 - 7 \\ 9 \end{array}$$

$$\begin{array}{l} 10 + 3 \times (2 - 7) \\ 10 + 3 \times -5 \\ 10 + (-15) \\ -5 \end{array}$$

$$13. \quad 405 - 4 \times 45 \quad 405 + 4(-45) \checkmark$$

$$405 - 180$$

$$225$$

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Homework Solutions

She has \$225 in her account.

$$15 \quad \frac{(-2) + (+5) + (-8) + (-4) + (-11) + (-10) + (-5)}{7}$$

$$\frac{-35}{7}$$

$$-5$$

$$17. a) (-10) \boxed{\times} (-2) \boxed{+} 1 = 21$$

$$b) (-5) \boxed{-} (-2) \boxed{+} 4 = 1$$

$$c) 6 \boxed{\times} (-7) \boxed{-} 2 = -44$$

$$d) (-2)(-2) \boxed{-} 8 = -4$$

Integers

Adding $() + ()$

$$i) \rightarrow () + ()$$

same sign
- both positive
→ both negative

$$\text{Ex } (+) + (+) = (+)$$

$$(-) + (-) = (-)$$

Just add number part, then keep the original sign

$$ii) \text{ Adding different signs } (+) + (-)$$

different

→ ignore sign. Take Big #
subtract small #
"what's the difference"

→ Keep sign on larger #

Subtracting Integers

→ Add opposite
(leave 1st # alone)

(Same) — ()
 ↓ ↓
 add opposite
 sign
 → now use
 addition rules

Ex)
 $(-1) - (+5)$
 ↓ ↓
 add opp
 $(-1) + (-5)$
 ↙ ↘
 Same
 use adding
 rule
 (-6)

Multiply and Divide Integers
 ↳ Same rules for Both

Same Sign

→ both positive

→ both negative

$$(+)\cdot(+)=(+)$$

$$(-)\cdot(-)=(+)$$

Signs Different

→ one negative
 one positive

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

Attachments

Grade 8 Order of Operations Extra Practice.pdf

Extra Practice 5 Order of Operations (Integers).pdf