Sec 1.6 ✓ 8-28-13 ✓ (1

58, 66, 69, 113, 115, 121, 109

✓ = done in class 127, 133

(58.) $-40-(-40)=0$

$=-40+40$ (neg)(neg) = pos

$=0$

(69.) $-6-(-7)=$ **1**

$-6+7=1$

(66.) $3-(+12)=3+12=15$

Made up: $-36-(-12)$

$=-36+12=-(36-12)$

$=-24$

(13.) ✓

(2

$-34 - 28 + (-33) - 44$

TURN − INTO + (−) = + (neg.)

$-34 + (-28) + (-33) + (-44)$

$+ (-34) + (-28) + (-33) + (-44)$

$= -(34 + 28 + 33 + 44)$

62

77

$= (-139)$

77
62
139

TURN − INTO + (?)

(109) $16 - (-12) - 1 - (-2) + 3$

$= (16) + (12) + (-1) + (2) + (3)$

(33)

$= (33) + (-1) = 32$ BALANCE

(115.)

$$-93 + (-84) - (-93) - (-84)$$

$$= -93 + (-84) + (93) + (84)$$

cancel 0

cancel 0

$$= 0 + 0 = 0$$

(121.) $10x - 13x$

$$= 10 \cdot x + (-13) \cdot x$$

$$[10 + (-13)] \cdot x$$

$$[-3] \cdot x \overset{\text{AKA}}{=} -3x$$

(127.)

$5(-3x) - 11 = -6 - 3x$

$5 - 11 = 5 + (-11)$

$= -(6)$

$= -(11 - 5)$

$= -6$

(133.) $13x - (-2x) + 45 - (-21) - 7x$

TURN − into +(?)

$(+13x) + (2x) + (45) + (21) + (-7x)$

66

$15x + (-7x)$

$8x$

$+66 =$ Final answer

UNLIKE!!

8-28-13 newgrid

V = done in class

1.7

Ex	problem
1	11, 13, 15, 17
2	33, 49
3	39
4	51, 53
5	57
6	81
7	101, 120
8	89, 91
9	111, 115
10	75
11	77, 73, 174

V = done

1.8

Ex	prob.
1	3, 7
2	41, 13, 25
3	33
4	19, 47, 55
5	13, 15
6	67
7	53
8	97
9	85, 87
10	91

Ex	problem
11	73, 77
12	83, 87
13	85
14	97, 98

Quiz 2 = Sept 4, 13

Quiz 2: sec 1.5, 1.6 only

1.7 for E.C. ?

1.8 " " ?

Ex

1.7

11) $-4 \cdot 10 = -40$

(neg)·(pos) = neg

$(-4)\cdot(10) = neg$

17) $-9 \cdot (-8) = pos$

$= (neg)\cdot(neg) = pos)$

$= (-9)\cdot(-8) = pos$

$= +72$

49)

$(8 \cdot 9 = 72)$

$(-2)\cdot(-5)\cdot(-3)\cdot(-5) = pos$ (4 negs)

$= +(2 \cdot 5 \cdot 3 \cdot 5) = 150$

(39.) $(-5.3)\cdot(2.1) = \text{neg}$

$= -11.13$

SIDE WORK:

$$\begin{array}{r} 5.3 \\ \times\ 2.1 \\ \hline 53 \\ 106 \\ \hline 11.13 \end{array}$$

(53.) $(-8)\cdot(-9)\cdot(-10)$

$= -(720)$

$= -720$

3 negs

$(-)(-)(-)$

$= (-)$

↑ sign is important!

(57) $\frac{neg}{neg} = pos$; $\frac{pos}{neg} = neg = \frac{neg}{pos}$ (8

(18) $\div (-2) = neg = \frac{pos}{neg}$

$= -9$ (1 neg)

(81) $\frac{-8}{3} = -\frac{8}{3} = \frac{8}{-3}$

NOTE: $-\frac{8}{3} = -\left(\frac{8}{3}\right)$

(120) $\frac{3}{-10} + \frac{-1}{5}$

$= +\left(-\frac{3}{10}\right) + \left(-\frac{1}{5}\right)$

$= \left(-\frac{3}{10}\right) + \left(-\frac{1}{5}\right) = neg$

(120.)

$$-\frac{3}{10} + \left(-\frac{1}{5}\right); \text{ LCD} = 10$$

$$\left(-\frac{3}{10}\right)\cdot\frac{1}{1} + \left(-\frac{1}{5}\right)\cdot\frac{2}{2}$$

$$= \left(-\frac{3}{10}\right) + \left(\frac{-2}{10}\right)$$

$$= \frac{-5}{10} = -\frac{1}{2}$$

---

(91) $\frac{51}{-10} \Rightarrow$ Reciprocal: $\frac{-10}{51}$ (invert, keep the sign)

CHECK: $\left(\frac{51}{-10}\right)\cdot\left(\frac{-10}{51}\right) = +1 = 1$

Sec 1.7

(115.)

$$\frac{7}{10} \div \left(\frac{-3}{5}\right)$$

required step

$$\Rightarrow \frac{7}{10} \cdot \left(\frac{5}{-3}\right) = \frac{35}{-30}$$

correct student WORK

$$= -\frac{35}{30}$$

$$= -\frac{\cancel{35}^{7}}{\cancel{30}_{6}}$$

$$= -\frac{7}{6}$$

SHORT cut

$$\frac{7}{\cancel{10}_{2}} \cdot \left(\frac{\cancel{5}^{1}}{-3}\right)$$

$$= -\frac{7}{6}$$

(75.) $-4.8 \div 1.2 = \frac{-4.8}{1.2} = \text{neg}$

$$= -4$$

NO calculators

(Quiz 3)

$$1.2\overline{)48.0} \quad 4.0$$

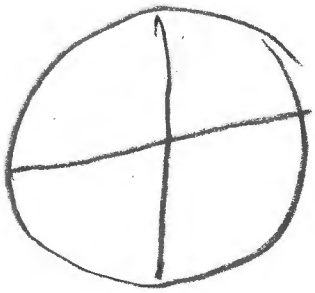
$$-48\downarrow$$

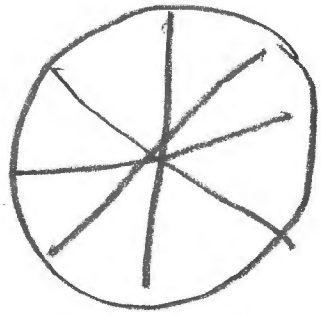
$$0$$

(75)

$$-\frac{4.8}{1.2} = -\frac{4.8}{1} \cdot \frac{1}{1.2} = -4$$

(73.) $\frac{48}{0}$ undefined

$\frac{\pi c}{4} \Rightarrow$ 

$\frac{\pi c}{8} \Rightarrow$ 

$\frac{\pi R}{0.5} = 2\pi$; $\frac{1}{0.25} = 4\pi$; $\frac{1}{0.125} = 8\pi$

(13) $\frac{48}{0}$ undefined

$\frac{1}{0}$ undefined = infinite number of pieces of pie.

↳ divide a pie into infinity of pieces with 0 thickness: impossible!

$4 = \frac{1}{0.25}$ ⇒ divide pie into 4 pieces.

$0.25 = \frac{1}{4}$

(74) $\frac{0}{-5} = 0$. defined

1.8

(71) $3t \cdot 3t \cdot 3t \cdot 3t \cdot 3t$

$= (3t) \cdot (3t) \cdot (3t) \cdot (3t) \cdot (3t)$

$= (3t)^5$

$b^3 = b \cdot b \cdot b$, etc

(25.) $(3t)^4$

$= (3t)\cdot(3t)\cdot(3t)\cdot(3t)$

$= (3\cdot3\cdot3\cdot3)\cdot t\cdot t\cdot t\cdot t$

$(81)\cdot t^4 = \boxed{81t^4}$

(33) $6 - 10 \div 5 - 2$ (STEP 3)

$= 6 - 10 - 2$

$= 6 + (-10) + (-2)$ (SHORTCUT)

$= 6 + (-12)$

$= \boxed{-6}$

0 of 0

(1) ( )
(2) b^n
(3) $\div$ OR $\cdot$; ($\cdot$ OR $\div$)
(4.) $+$ OR $-$; ($-$ OR $+$)

(33)

$6 + (-10) + (-2)$ step 4

$(-4) + (-2)$

-6

(55)

$$\frac{7^2 - (-1)^7 \leftarrow 0 \text{ of } 0}{5 \cdot 7 - 4 \cdot 3^2 - 2^2 \leftarrow 0 \text{ of } 0}$$

numerator 0 of 0

ALT. $7^2 - (-1)^7$

$49 - (-1)^7$

$49 - (-1)$

$7^2 - (-1)^7$ step 2

$7^2 - (-1)$ step 2

$49 - (-1)$ step 2

$= 49 + (1) = 50$ step 4

denom. 0 of 0

$5 \cdot 7 - 4 \cdot 3^2 - 2^2$

$= 5 \cdot 7 - 4 \cdot 9 - 4$ step 2

$= 35 - 4 \cdot 9 - 4$ step 2

$= 35 - 36 - 4$

$= 35 + (-36) + (-4)$

$= -5$ step 4

$$\text{answer} = \frac{50}{-5} = -10$$

explanation:

$$-1 = (-1)^7 = (-1)(-1)(-1)(-1)(-1)(-1)(-1)$$

pos pos pos neg

$(-1)^{\text{ODD}} = -1$

$(-1)^{\text{even}} = +1$ } general rule.

---

negative of 3^2

(F$_a$) $-3^2 = (-1)\cdot 3^2$

$= (-1)\cdot 9$

$= -9$

$-a = (-1)\cdot a$ RULE

$\boxed{-3^2 \neq (-3)^2}$

---

contrast! (B.) $(-3)^2 = (-3)\cdot(-3)$

$(-\text{three})^2 = \text{POS}$

= neg · neg = POS = 9

(07.) $45 \div 3^2 \cdot x \cdot (x-1)$,

$x = 3$ ← substitution

$\Rightarrow 45 \div 3^2 \cdot 3 \cdot (3-1)$

$45 \div 3^2 \cdot 3 \cdot (2)$

$= 45 \div 9 \cdot 3 \cdot 2$

$= 5 \cdot 3 \cdot 2$

$= 15 \cdot 2 = \boxed{30}$

OR

1. ( ) ✓
2. b^n ✓
3. + OR − (skip)
4. ÷ OR •
5. • OR •

(53.)

$$36 \div (-2)^2 + 4 \cdot [5 - 3 \cdot (8-9)^5]$$

$8 - 9 = 8 + (-9) = -1$

$$36 \div (-2)^2 + 4 \cdot [5 - 3 \cdot (-1)^5]$$

$(-1)^5 = -1$

$$= 36 \div (-2)^2 + 4 \cdot [5 - 3 \cdot (-1)]$$

$$= 36 \div (-2)^2 + 4 \cdot [5 + 3]$$

$$= 36 \div (-2)^2 + 4 \cdot [8]$$

$(-2)^2 = \text{pos}$
$= 2 \cdot 2$
$= 4$

$$= 36 \div 4 + 4 \cdot [8]$$

$$= 9 + 4 \cdot 8$$

$$= 9 + 32$$

$$= 41$$

QUESTION:

$36 \div [-(-2)^2]$

$= 36 \div [-4]$

$= 36 \div (-4)$

$= -9$

$-3^2 = (-1)\cdot 3^3 = (-1)\cdot 27 = -27$

57. $$\frac{-3^3 - 2\cdot 3^2}{8 \div 2^2 - (6 - |2-15|)}$$

$$= \frac{-27 - 2\cdot 9}{8 \div 4 - (6 - |-13|)}$$

$$= \frac{-27 - 18}{2 - (6-13)} \quad ; |-13| = 13$$

$$= \frac{-45}{2 - (-7)}$$

$$= \frac{-45}{2+7} = \frac{-45}{9}$$

$$= -5$$