

## exam 3 review

1a. eighty-nine thousand four hundred twenty-one and six thousand three hundred fifty-seven-thousandths

b.  $-708.877$

2.a. add on your calculator

$302.058$

b.  $1.831$

$$2c. \quad 11.93958$$

show all work

$$\begin{aligned} 3. \quad & -(.78)^2 + 5|-3.64 + 1.98| = \\ & -.6084 + 5|-1.66| = \\ & -.6084 + 5(1.66) = \\ & -.6084 + 8.3 = 7.6916 \end{aligned}$$

b.

$$\begin{array}{r} .22464 \\ \hline \end{array}$$

$$\begin{array}{r} .36 \\ \hline \end{array}$$

$$.624$$

$$36 \overline{) 22.464}$$

$$\begin{array}{r} 216 \\ \hline \end{array}$$

$$86$$

$$72$$

$$\begin{array}{r} 144 \\ \hline \end{array}$$

$$144$$

$$3c. \quad \frac{2(.351) + .5592}{-.4} =$$

$$\frac{.702 + .5592}{-.4} = \frac{1.2612}{-.4} =$$

$$= -3.153$$

*optional*

$$\begin{array}{r} \underline{-3.153} \\ 4 \overline{) 12.612} \\ \underline{12} \phantom{00} \\ 6 \phantom{00} \\ \underline{4} \phantom{00} \\ 20 \phantom{00} \\ \underline{20} \phantom{00} \\ 0 \phantom{00} \end{array}$$

$$4.a. \quad \frac{3}{7} + \frac{2}{2} \left(-\frac{1}{3}\right)^3 = \left(-\frac{1}{3}\right) \left(-\frac{1}{3}\right) \left(-\frac{1}{3}\right)$$

$$\frac{3}{7} + \frac{7}{2} \left(-\frac{1}{27}\right) = \frac{3}{7} - \frac{7}{54} =$$

$$\frac{3 \cdot 54 - 7 \cdot 7}{7 \cdot 54} = \frac{162 - 49}{378} = \frac{113}{378}$$

4b.

$$\left(\frac{7}{8} - \frac{1}{5}\right) = \frac{45}{16}$$

$$\left(\frac{5 \cdot 7 - 8 \cdot 1}{8 \cdot 5}\right) = \frac{-69}{16}$$

$$-64 - 5 = -69$$

$$-4 - \frac{5}{16}$$

$$16 \cdot (-4) = -64$$

$$-64 - 5 = -69$$

$$\frac{35-8}{40} \cdot \frac{16}{-69} = \frac{-18}{115}$$

$$9 \cdot \frac{27}{40} \cdot \frac{16}{-69} = \frac{-18}{115}$$

4c.  $\left| \frac{2}{3} - \frac{9}{10} \right| = \frac{7}{15}$

$\frac{20-27}{30} = \frac{-7}{30}$

$\frac{-7}{30}$

~~$\frac{7}{30}$~~

~~$\frac{7}{30}$~~   
2

$\frac{-7}{5}$

~~$\frac{7}{5}$~~

~~$\frac{7}{5}$~~

1-  
meant  
- answer  
1  
2

$$\textcircled{5a} \quad (4x - 8.3) = (30.5)10$$

$$4x - 83 = 305$$
$$+ \quad 83$$

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$$4x = 388$$

$$\frac{4x}{4} = \frac{388}{4}$$
$$x = 97$$

$$4(97) - 8.3 \stackrel{?}{=} 30.5$$

$$388 - 8.3 \stackrel{?}{=} 30.5$$

$$30.5 \stackrel{?}{=} 30.5 \checkmark \quad \{97\}$$

$$17 \left( \frac{X}{3} \right) = \left( \frac{X}{5} - 18 \right) 15 \quad \text{LCM} = 3 \cdot 5 = 15$$

LCD

$$15 \left( \frac{X}{3} \right) = 15 \left( \frac{X}{5} \right) - \frac{18 \cdot 15}{1}$$

$$5X = 3X - 270$$

$$\frac{2X}{2} = \frac{-270}{2}$$

$$X = -135$$

$$\frac{-135}{3} \stackrel{?}{=} \frac{-135}{5} - 18$$

$$-45 \stackrel{?}{=} -27 - 18$$

$$-45 = -45 \checkmark$$

$$\{-135\}$$



2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31,  
37, 41, 43

$$7a. \frac{\frac{24}{11}}{\frac{10}{7}} = \frac{24}{11} \cdot \frac{7}{105} = \frac{74}{55}$$

$$b. \frac{\frac{a \cdot 2}{b \cdot 5} + \frac{c \cdot 1}{d \cdot 9}}{\frac{2}{5} - \frac{1}{9}} = \frac{\frac{2 \cdot 9 + 1 \cdot 5}{5 \cdot 9}}{\frac{2 \cdot 9 - 1 \cdot 5}{5 \cdot 9}}$$

memoize

$$\frac{ad + bc}{bd}$$

$$= \frac{18 + 5}{45} = \frac{18-5}{45}$$

$$7b. \frac{23}{45} = \frac{23 \cdot \frac{1}{45}}{\frac{45}{1} \cdot \frac{1}{45}} = \frac{23}{13}$$

$$\frac{13}{45}$$

$$7c. \frac{\frac{x}{4} + 5 = \frac{20}{4}}{5x + \frac{1}{4}} = \frac{\frac{x}{4} + \frac{20}{4}}{5x + \frac{1}{4}}$$

$$\frac{20+x}{4}$$

$$\frac{20x+1}{4}$$

$$\frac{20x}{4} + \frac{1}{4} = \frac{20+x}{4} \cdot \frac{1}{20x+1} = \frac{x+20}{20x+1}$$

$$\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$$

$$\frac{a}{b} - \frac{c}{d} = \frac{ad - bc}{bd}$$