

Class / Homework

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2	16ac
3(c,d)	
4	19bc
5 (a,c)	21
6(a)	
7(a,b,c)	23a,c,d
8(a,d)	
10(b,c)	Pg141
14 (b, d)	13 cd

Chapter 3 Review

Section 3.1: Comparing

2. Order the following rational numbers from least to greatest.

$$3.12, -\frac{4}{3}, 0.9, -\frac{1}{2}, -0.4$$

\downarrow
 $-1.\bar{3}$

\downarrow
 -0.5

$$-\frac{4}{3}, -\frac{1}{2}, -0.4, 0.9, 3.12$$

3. Write 3 rational numbers between each pair of numbers.

c) 0.8, 0.9

$$\begin{array}{c} 0.81 \\ 0.82 \\ \vdots \\ 0.89 \end{array}$$

d) $-\frac{5}{2}, -\frac{3}{2}$

$$-\frac{10}{4}, -\frac{6}{4}$$

$$-\frac{7}{10}, -\frac{8}{10}, -\frac{9}{10}$$

4. On one day, the prices of 5 stocks changed by the following amounts in dollars:
 $-0.09, -0.51, +0.95, +0.54, -2.00$
 Order the amounts from the greatest loss to the greatest gain.

$$-2.00, -0.51, -0.09, +0.54, +0.95$$

Section 3.2: Adding

5. Determine each sum.

$$\begin{aligned} \text{a) } & -1.2 + (-0.3) \\ & = -1.5 \end{aligned}$$

$$\begin{aligned} \text{c) } & -23.6 - 4.57 \\ & = -28.17 \end{aligned}$$

6. A technician checked the temperature of a freezer and found that it was -15.7°C .

She noted that the temperature had dropped 7.8°C from the day before.

a) What was the temperature the day before?

$$\begin{aligned} & -15.7 + (-7.8) \\ & = -23.5 \end{aligned}$$

7. Determine each sum.

$$\begin{aligned} \text{a) } & \frac{3}{4} + \frac{7}{8} \\ & = \frac{6}{8} + \frac{7}{8} \\ & = \frac{13}{8} \end{aligned}$$

$$\begin{aligned} \text{b) } & -1\frac{1}{2} + 3\frac{1}{3} \\ & = -\frac{3}{2} + \frac{10}{3} \\ & = -\frac{9}{6} + \frac{20}{6} \\ & = \frac{11}{6} \end{aligned}$$

$$\begin{aligned} \text{c) } & -4\frac{5}{6} + \left(-1\frac{5}{12}\right) \\ & = -\frac{29}{6} + -\frac{17}{12} \\ & = -\frac{58}{12} + -\frac{17}{12} \\ & = -\frac{75}{12} \\ & = -6\frac{3}{4} \\ & = -6\frac{1}{4} \end{aligned}$$

Section 3.3: Subtracting

8. Determine each difference.

$$\begin{aligned} \text{a) } -3.4 - (-4.8) \\ = 1.4 \end{aligned}$$

$$\begin{aligned} \text{d) } 63.2 - 80.02 \\ = -16.82 \end{aligned}$$

10. Determine each difference.

$$\begin{aligned} \text{b) } -\frac{5}{8} - \left(-\frac{7}{5}\right) \\ = \frac{-25}{40} - \frac{-56}{40} \\ = \frac{31}{40} \end{aligned}$$

$$\begin{aligned} \text{c) } 3\frac{5}{7} - \left(-6\frac{9}{10}\right) \\ = \frac{26}{7} - \frac{-69}{10} \\ = \frac{260}{70} + \frac{483}{70} \\ = \frac{743}{70} \\ = 10\frac{43}{70} \end{aligned}$$

Section 3.4: Multiply

14. Determine each product.

$$\begin{aligned} \text{b) } & (-4.1)(2.3) \\ & = -9.43 \end{aligned}$$

$$\begin{aligned} \text{d) } & 1\frac{3}{5} \times \left(-2\frac{1}{2}\right) \\ & \frac{8}{5} \times \frac{-5}{2} \\ & \frac{4}{1} \times \frac{-1}{1} \\ & = -4 \end{aligned}$$

Section 3.5: Dividing

16. ~~Predict which expressions have a value between -1 and 1 . Calculate each quotient to check.~~

$$\text{a) } (-2.2) \div 0.4$$

$$= -5.5$$

$$\text{c) } \frac{9}{10} \div \left(-\frac{3}{2}\right)$$

$$\frac{\cancel{9}}{\cancel{10}} \times \frac{\cancel{-2}}{\cancel{3}}$$

$$\frac{3}{5} \times \frac{-1}{1}$$

$$= -\frac{3}{5}$$

19. Determine each quotient.

$$\text{b) } (-20.6) \div (-0.9)$$

$$= 22.9$$

$$\text{c) } \left(-\frac{9}{11}\right) \div \left(\frac{7}{5}\right)$$

$$= -\frac{9}{11} \times \frac{5}{7}$$

$$= -\frac{45}{77}$$

Section 3.6: BEDMAS

21. Evaluate

$$a) -\frac{3}{5} + \left[\frac{1}{3} \times \left(-\frac{3}{4} \right) \right]$$

$$-\frac{3}{5} + \left[\frac{1}{1} \times \frac{-1}{4} \right]$$

$$-\frac{3}{5} + \left[\frac{-1}{4} \right]$$

$$= \frac{-12}{20} + \frac{-5}{20}$$

$$= \frac{-17}{20}$$

$$b) \left(-\frac{3}{5} + \frac{1}{3} \right) \times \left(-\frac{3}{4} \right)$$

$$\frac{-9}{15} + \frac{5}{15} \times \frac{-3}{4}$$

$$\frac{-4}{15} \times \frac{-3}{4}$$

$$\frac{-1}{5} \times \frac{-1}{1}$$

$$= \frac{1}{5}$$

$$c) -\left(-\frac{3}{5} + \frac{1}{3} \right) \times \left(-\frac{3}{4} \right)$$

$$- \left(\frac{-9}{15} + \frac{5}{15} \right) \times \frac{-3}{4}$$

$$- \left(\frac{-4}{15} \right) \times \frac{-3}{4}$$

$$- \left(\frac{-1}{5} \right) \times \frac{-1}{1}$$

$$- \left(\frac{1}{5} \right)$$

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

23. Evaluate each expression. Show your work to illustrate the order of operations.

a) $-1.2 \div (0.6) - [6.3 + (-3.4)]$

$$\underbrace{-1.2 \div (0.6)} - [2.9]$$

$$-2 - [2.9]$$

$$= -4.9$$

c) $-\frac{4}{5} \div \left[\frac{1}{2} + \left(-\frac{1}{6} \right) \left(-\frac{1}{6} \right) \times \frac{1}{4} \right]$

$$-\frac{4}{5} \div \left[\frac{1}{2} + \frac{1}{36} \times \frac{1}{4} \right]$$

$$-\frac{4}{5} \div \left[\frac{1}{2} + \frac{1}{144} \right]$$

$$-\frac{4}{5} \div \left[\frac{72}{144} + \frac{1}{144} \right]$$

$$-\frac{4}{5} \div \frac{73}{144}$$

$$-\frac{4}{5} \times \frac{144}{73}$$

$$= \frac{-576}{365}$$

$$d) \left(-\frac{2}{3}\right)\left(-\frac{2}{3}\right) \div \frac{2}{9} - \left(-\frac{4}{5}\right)$$

$$\frac{4}{9} \div \frac{2}{9} - \left(-\frac{4}{5}\right)$$

$$\therefore \frac{4}{9} \times \frac{9}{2} - \left(-\frac{4}{5}\right)$$

$$\therefore \frac{2}{1} \times \frac{1}{1} - \left(-\frac{4}{5}\right)$$

$$\therefore \frac{2}{1} - \left(-\frac{4}{5}\right)$$

$$= \frac{10}{5} + \frac{4}{5}$$

$$= \frac{14}{5}$$

$$= 2\frac{4}{5}$$

Page 144 question 13 cd

- 13.** Use a calculator to evaluate.
Write the answers to the nearest hundredth where necessary.

$$c) \frac{0.67 - 4.2 \div (-0.2)}{(-7.3 + 8.6)^2}$$

$$\begin{array}{l} \text{Top} \\ 0.67 - 4.2 \div (-0.2) \\ 0.67 - (-21) \\ 21.67 \end{array}$$

$$\begin{array}{l} \text{Bottom} \\ (-7.3 + 8.6)^2 \\ (1.3)^2 \\ = 1.69 \end{array}$$

$$\frac{\text{Top}}{\text{Bottom}} = \frac{21.67}{1.69} \approx 12.82$$

13. Use a calculator to evaluate.

Write the answers to the nearest hundredth where necessary.

$$d) \frac{8.9 \times (-3.1 + 22.7)^2 + 4.7}{(-9.6) \div 0.04 - 0.4}$$

Top

$$8.9 \times (-3.1 + 22.7)^2 + 4.7$$

$$8.9 \times (19.6)^2 + 4.7$$

$$8.9 \times 384.16 + 4.7$$

$$3419.024 + 4.7$$

$$3423.724$$

$$(-9.6) \div 0.04 - 0.4$$

$$-240 - 0.4$$

$$= -240.04$$

$$\frac{\text{Top}}{\text{Bottom}} = \frac{3423.724}{-240.04} = -14.24$$