

INTEGER REVIEW

7) Simplify.

- a) $(-8) - (+3) + (-5) - (+7)$
- b) $(-14) - (+12) - (+3)$
- c) $(-103) - (+27) - (-100)$
- d) $(+283) - (-20) + (-60)$
- e) $(+70) - (+90) - (-100)$
- f) $(-100) + (-70) - (+20)$
- g) $(-30) - (-72) + (-43)$
- h) $(+981) - (-19) - (+891)$
- i) $(+45) + (-100) - (-10) - (-40)$
- j) $(-230) - (-300) - (-50) - (-40) + (+230)$

8) Simplify.

- a) $(-8 + 5) - (17 - 9)$
- b) $(-30 - 20) - (-20 - 30)$
- c) $(93 - 84) - (-67 + 89)$
- d) $(-9 - 17) - (11 - 27)$
- e) $(3 - 7) + (5 - 9) - (2 - 7)$
- f) $(284 - 180) - (-3 + 99) + (109 - 47)$
- g) $(33 - 21 + 24) - (47 + 12 - 29)$
- h) $(-74 - 18 - 21) + (-47 + 81 + 10)$

9) Simplify.

- a) $(-7)(+8)$
- b) $(-6)(-9)$
- c) $(+5)(-7)$
- d) $(+3)(-9)$
- e) $(-12)(-6)$
- f) $(+10)(+8)$
- g) $(-14)(+3)$
- h) $(-4)(+15)$
- i) $(-11)(-10)$
- j) $(+12)(+12)$
- k) $(-16)(-12)$
- l) $(-150)(+3)$
- m) $(+13)(+13)$
- n) $(-22)(+5)$
- o) $(+15)(-15)$
- p) $(+16)(-20)$

10) Simplify.

- a) $(-6)(+3)(-4)$
- b) $(-8)(-2)(+7)$
- c) $(+6)(+5)(+3)$
- d) $(-8)(-2)(-3)$
- e) $(+5)(-3)(-4)$
- f) $(-7)(-2)(-5)$
- g) $(-9)(+9)(-9)$
- h) $(+2)(-3)(+4)$

Simplify.

- a) $(-2)(-3)(-4)(-5)$
- b) $(+8)(-2)(+6)(-3)$
- c) $(-5)(+8)(-2)(-10)$
- d) $(+6)(+7)(-2)(0)$
- e) $(-1)(+1)(+2)(+9)$
- f) $(+5)(+5)(+4)(+4)$

12) Simplify.

- a) $(-16) \div (+4)$
- b) $(-18) \div (-9)$
- c) $(-48) \div (-16)$
- d) $(+81) \div (-3)$
- e) $(-64) \div (-8)$
- f) $(-54) \div (+18)$
- g) $(-108) \div (+36)$
- h) $(+121) \div (-11)$
- i) $(-144) \div (-9)$

13) Simplify.

- a) $\frac{(-8)(-12)}{(-24)(-4)}$
- b) $\frac{(-5)(+39)}{(-13)(-3)}$
- c) $\frac{(+121)(-7)}{(+77)(-11)}$
- d) $\frac{(-42)(+6)}{(+14)(-9)}$
- e) $\frac{(+65)(-15)}{(+25)(+3)}$
- f) $\frac{(+85)(+70)}{(-50)(-17)}$
- g) $\frac{(-51)(-91)}{(-13)(-17)}$
- h) $\frac{(+92)(+42)}{(+28)(-69)}$

14) Simplify.

- a) $\frac{(-40)}{5} + \frac{18}{(-6)}$
- b) $\frac{(-42)}{6} - \frac{(-63)}{7}$
- c) $\frac{42}{(-3)} + \frac{(-42)}{7}$
- d) $\frac{(-49)}{7} - \frac{26}{(-13)}$
- e) $\frac{(-96)}{(-16)} - \frac{132}{12}$
- f) $\frac{85}{17} + \frac{(-95)}{19}$

15) Simplify.

- a) $(-9)(+4) \div (-6)$
- b) $(+8) \div (-4) + (-2)(-11)$
- c) $(+25) \div (-5)(-4) - (-3)$
- d) $(-3) + (-15) \div (+5)(-6)$

18) Simplify.

- a) $(-36) \div (-4) - (+6)(-5) \div (+3)$
- b) $-2[(-7)(-3) - (+5)(0) + (+2)(-1)]$
- c) $(+8)(-6) \div (+12) - (-3) \div (+1) + (-7)(+1)$
- d) $4[(-11)(-2) + (-6)(+3) - (+4)(+4)]$

ANSWERS :

Review Exercises, page 31

1. a) -9, -7, -5, -4, 3, 6
b) -9, -7, -6, -5, 6, 9
2. a) 1 b) -8 c) 3 d) 8 e) 4
f) -1 g) -8 h) -31
3. a) -6 b) -9 c) -55 d) 2
e) -104 f) -13 4. -45°C
5. a) 3 b) -10 c) -7 d) 7 e) -5
f) 13 g) 9 h) -10
6. a) -5 b) 13 c) -8 d) 3 e) -1 f) 5
g) 2 h) -9 i) 6 j) -2 k) -7 l) -8
7. a) -23 b) -29 c) -30 d) 243 e) 80
f) -190 g) -1 h) 109 i) -5 j) 390
8. a) -11 b) 0 c) -13 d) -10
e) -3 f) 70 g) 6 h) -69
9. a) -56 b) 54 c) -35 d) -27
e) 72 f) 80 g) -42 h) -60 i) 110
j) 144 k) 192 l) -450 m) 169
n) -110 o) -225 p) -320
10. a) 72 b) 112 c) 90 d) -48 e) 60
f) -70 g) 729 h) -24
11. a) 120 b) 288 c) -800 d) 0
e) -18 f) 400
12. a) -4 b) 2 c) 3 d) -27 e) 8
f) -3 g) -3 h) -11 i) 16
13. a) 1 b) -5 c) 1 d) 2 e) -13
f) 7 g) 21 h) -2
14. a) -11 b) 2 c) -20 d) -5 e) -5 f) 0
15. a) 6 b) 20 c) 23 d) 15
16. a) 11 b) -7 c) -9 d) 11
17. Probably rain
18. a) 19 b) -38 c) -8 d) -48

RATIONAL NUMBERS REVIEW

7) Simplify.

a) $-\frac{2}{3} \times \frac{7}{8}$

b) $\left(\frac{5}{-8}\right)\left(\frac{-9}{12}\right)$

c) $\left(\frac{3}{-5}\right)\left(\frac{-7}{-8}\right)$

d) $\left(\frac{13}{15}\right)\left(\frac{30}{-39}\right)$

e) $\left(\frac{-6}{-5}\right)\left(\frac{12}{-15}\right)\left(\frac{-25}{36}\right)$

f) $\left(\frac{8}{13}\right)\left(\frac{-6}{-5}\right)\left(\frac{-4}{7}\right)$

8) Simplify.

a) $\frac{3}{7} \div \left(\frac{-9}{14}\right)$

b) $-\frac{13}{4} \div \left(\frac{2}{-3}\right)$

c) $\frac{7}{-8} \div \left(\frac{-9}{4}\right)$

d) $\frac{-24}{-35} \div \left(\frac{16}{-21}\right) \div \frac{9}{10}$

e) $\frac{-3}{5} \div \left(\frac{-5}{-12}\right) \div \left(\frac{-9}{10}\right)$

f) $\frac{18}{5} \div (-3) \div \frac{3}{2}$

9. Simplify.

a) $(-56.28) \times (0.09)$

b) $(14.46) \div (-24.1)$

c) $(143.7) \times (-206.8)$

d) $(-1433.36) \div (43.7)$

e) $(-7.9808) \div (-92.8)$

f) $(-0.029) \times (-33.370)$

10) Simplify.

a) $\frac{3}{5} + \frac{4}{7}$

b) $\frac{5}{12} + \frac{3}{8}$

c) $\frac{2}{9} + \frac{7}{12}$

d) $\frac{3}{11} + \left(\frac{-5}{11}\right)$

e) $\frac{13}{-24} + \left(\frac{-7}{24}\right)$

f) $\frac{-2}{3} + \left(\frac{-4}{9}\right)$

g) $\frac{4}{-5} + \frac{14}{15}$

h) $\frac{-3}{-7} + \left(\frac{-2}{5}\right)$

i) $\frac{-4}{9} + \left(\frac{17}{-21}\right)$

j) $-\frac{5}{12} + \left(\frac{7}{-9}\right)$

k) $-\frac{32}{15} + \frac{19}{6}$

l) $\frac{14}{3} + \left(\frac{-31}{4}\right)$

11) Simplify.

a) $\frac{7}{9} - \frac{1}{6}$

b) $\frac{5}{6} - \frac{3}{10}$

c) $\frac{7}{8} - \frac{5}{12}$

d) $\frac{-5}{8} - \frac{3}{8}$

e) $\frac{17}{-20} - \left(\frac{-12}{20}\right)$

f) $\frac{-7}{8} - \left(\frac{-1}{4}\right)$

g) $\frac{9}{11} - \left(\frac{-3}{5}\right)$

h) $-\frac{16}{5} - \left(\frac{-7}{4}\right)$

12. Simplify.

a) $98.37 - (+102.89)$

b) $(-39.10) + (-9.22)$

c) $(-254.6) - (-748.9)$

d) $58.73 - (-102.99)$

e) $301.7 + (-76.8)$

f) $(-401.01) + (-0.96)$

13) Simplify.

a) $\frac{2}{3} \div \frac{5}{6} + \left(\frac{-1}{4}\right)$

b) $-\frac{5}{4} \times \frac{-2}{5} + \frac{2}{3}$

c) $-\frac{7}{6} - \frac{3}{5} \div \left(\frac{-6}{7}\right)$

d) $\frac{3}{8} \times \left(\frac{-4}{-3}\right) + \frac{5}{8} \div \left(\frac{-3}{2}\right)$

14) Simplify.

a) $\frac{5}{2} - \frac{11}{3} + \frac{5}{4}$

b) $\frac{5}{2} - \frac{5}{4} \div \frac{5}{4}$

c) $\frac{-6}{5} + \left(\frac{10}{-2}\right)\left(\frac{-3}{5}\right)$

d) $\left[\frac{3}{-4} - \left(\frac{-3}{4}\right)\right] \div 2$

e) $-6\left(\frac{4}{5} - \frac{1}{2}\right)$

f) $\left(\frac{3}{5}\right)\left(\frac{-1}{-2}\right)\left(\frac{-6}{3}\right) + \frac{1}{5}$

15. a) $-9.6 + (-3.2) \times 6.4 \div 1.6$

b) $\frac{-27.36}{-5.7} + (37.42)(-0.81)$

c) $(-88.7 + 43.9) \times (-65.96) \div 9.7$

d) $[(-15.5) + (6.2)(-3.4)] - (-7.7) \times (-8.2)$

16) Simplify.

a) $\left(\frac{3}{4}\right)\left(\frac{1}{-2}\right) + \left(\frac{5}{6}\right)\left(\frac{-1}{3}\right)$

b) $\frac{3}{8} \times \frac{2}{3} - \left(\frac{1}{2}\right)\left(\frac{-5}{6}\right) + \left(\frac{3}{5}\right)\left(\frac{3}{-4}\right)$

c) $\left[\frac{5}{2} \div \left(\frac{-4}{5}\right)\right] - \left(\frac{3}{-4}\right)\left(\frac{-8}{9}\right)$

ANSWERS:

Review Exercises, page 71

1. a) $-\frac{5}{2}$ b) $\frac{1}{8}$ c) $-\frac{9}{5}$ d) $-\frac{111}{100}$ e) $\frac{339}{40}$

2. $-\frac{6}{9}, -\frac{14}{21}, \frac{10}{-15}$ 3. $-\frac{31}{32}, -\frac{15}{16}, -\frac{43}{48}, \frac{2}{3}, \frac{5}{6}, 1$

4. Answers may vary. a) 0.1, 0.2, 0.3, ...
b) -1.2, -1.4, -1.6, -1.8

5. a) 0.375 b) -0.571428 c) $-0.58\bar{3}$
d) $2.\bar{2}$ e) -2.1875 f) $0.\bar{6}$

6. a) $-\frac{3}{2}$ b) $\frac{81}{4}$ c) $\frac{2007}{1000}$ d) $-\frac{208}{5}$

e) $\frac{43}{4}$ f) $-\frac{31}{8}$ 7. a) $-\frac{7}{12}$ b) $\frac{15}{32}$

c) $-\frac{21}{40}$ d) $-\frac{2}{3}$ e) $-\frac{2}{3}$ f) $\frac{192}{455}$

8. a) $-\frac{2}{3}$ b) $\frac{39}{8}$ c) $\frac{7}{18}$ d) -1 e) $\frac{8}{5}$ f) $-\frac{4}{5}$

9. a) -5.0652 b) -0.6 c) -29 717.16
d) -32.8 e) 0.086 f) 0.967 73

10. a) $\frac{41}{35}$ b) $\frac{19}{24}$ c) $\frac{29}{36}$ d) $-\frac{2}{11}$ e) -

f) $-\frac{10}{9}$ g) $\frac{2}{15}$ h) $\frac{1}{35}$ i) $-\frac{79}{63}$

j) $-\frac{43}{36}$ k) $\frac{31}{30}$ l) $-\frac{37}{12}$

11. a) $\frac{11}{18}$ b) $\frac{8}{15}$ c) $\frac{11}{24}$ d) -1 e) -

f) $-\frac{5}{8}$ g) $\frac{78}{55}$ h) $-\frac{29}{20}$

12. a) -4.52 b) -48.32 c) 494.3
d) 161.72 e) 224.9 f) -401.97

13. a) $\frac{11}{20}$ b) $\frac{7}{6}$ c) $-\frac{7}{15}$ d) $-\frac{11}{12}$

14. a) $\frac{1}{12}$ b) $\frac{3}{2}$ c) $\frac{9}{5}$ d) 0 e) $-\frac{9}{5}$ f) $\frac{4}{5}$

15. a) -22.4 b) -25.5102 c) 304.64
d) -99.72

16. a) $-\frac{47}{72}$ b) $\frac{13}{60}$ c) $-\frac{91}{74}$

MPM 1D0

1. A helicopter on speed violation patrol flew 4 km east, 6 km west, 8 km east, and then 5 km east. How far, and in what direction, is it from its starting point?

2. A storekeeper bought goods at the following prices.

Radios: \$55

Lamps: \$4

Racing bicycles: \$106

Tool kits: \$8

At a sale, she sold lamps and tool kits as loss leaders.

She sold 8 radios at \$70 each, 3 racing bicycles at \$140 each, 25 lamps at \$3 each, and 18 tool kits at \$6 each. What was her net profit or loss?

3. The product of two integers is 72. One of the integers is -18. What is the other?

4. At midnight, the temperature was 0°C . The temperature fell at an average rate of $2^{\circ}\text{C}/\text{h}$ for the next 6 h. What was the temperature at 05:00?

5. A man had \$150 in the bank. He wrote cheques for \$84, \$18, and \$159. He deposited a cheque for \$150. What is his final bank balance?

6. The heights of five girls are 148 cm, 157 cm, 151 cm, 156 cm, and 153 cm. Their average height is 153.

a. Give a positive or negative integer to indicate how much each girl differs from the average height.

b. Find the sum of the differences.