

# **SOLUTIONS TO SEATWORK:**

NSM Book 3, Exercise 8e,

pages 231 – 233

# SOLUTIONS

## Exercise 8e, # 4 p. 231

a)

$$\frac{x}{3} = \frac{8}{6}$$
$$\frac{x}{3} = \frac{4}{3}$$
$$x = 4$$

b)

$$\frac{12}{u} = \frac{16}{12}$$
$$\frac{12}{u} = \frac{4}{3}$$
$$4u = 36$$
$$u = 9$$

$$\frac{12}{9} = \frac{6+v}{v}$$
$$\frac{4}{3} = \frac{6+v}{v}$$
$$4v = 18 + 3v$$
$$v = 18$$

# SOLUTIONS

## Exercise 8e, # 4 p. 231

c)

$$\frac{k}{12} = \frac{10}{8}$$

$$8k = 120$$

$$k = 15$$

$$\frac{h}{8} = \frac{15}{12}$$

$$4h = 40$$

$$h = 10$$

d)

$$\frac{3}{9} = \frac{4}{t}$$

$$3t = 36$$

$$t = 12$$

$$\frac{3}{9} = \frac{6}{3+s}$$

$$9 + 3s = 54$$

$$3s = 45$$

$$s = 15$$

# SOLUTIONS

## Exercise 8e, # 4 p. 231

e)

$$\frac{12}{q} = \frac{9}{12}$$

$$9q = 144$$

$$q = 16$$

$$\frac{p}{12} = \frac{15}{9}$$

$$9p = 180$$

$$p = 20$$

# SOLUTIONS

## Exercise 8e, # 5 p. 232

a)

$$\frac{l + 12}{8 + 16} = \frac{3}{4}$$

$$4l + 48 = 72$$

$$4l = 24$$

$$l = 6$$

$$\frac{m + 24}{27} = \frac{4}{3}$$

$$3m + 72 = 108$$

$$3m = 36$$

$$m = 12$$

# SOLUTIONS

## Exercise 8e, # 5 p. 232

b)

$$\frac{p}{8} = \frac{16}{6}$$

$$3p = 64$$

$$p = \frac{64}{3} \text{ or } 21\frac{1}{3}$$

# SOLUTIONS

## Exercise 8e, # 5 p. 232

c)

$$\frac{9}{9+4} = \frac{6}{6+q}$$

$$\frac{9}{13} = \frac{6}{6+q}$$

$$54 + 9q = 78$$

$$9q = 24$$

$$q = \frac{24}{9} \text{ or } 2\frac{2}{3}$$

$$\frac{9}{13} = \frac{r}{r+3}$$

$$9r + 27 = 13r$$

$$4r = 27$$

$$r = \frac{27}{4} \text{ or } 6\frac{3}{4}$$

# SOLUTIONS

## Exercise 8e, # 6 p. 232

$$\frac{a+12}{12} = \frac{12}{8}$$

$$\frac{a+12}{12} = \frac{3}{2}$$

$$2a + 24 = 36$$

$$2a = 12$$

$$a = 6$$

$$\frac{b+6}{6} = \frac{12}{4}$$

$$b + 6 = 18$$

$$b = 12$$



# SOLUTIONS

## Exercise 8e, # 7 p. 232

$$\frac{AZ + 3}{AZ} = \frac{7}{5}$$

$$AZ + 15 = 7AZ$$

$$2AZ = 15$$

$$AZ = 7.5$$

$$\frac{CX + 4.8}{CX} = \frac{7}{2}$$

$$2CX + 9.6 = 7CX$$

$$5CX = 9.6$$

$$CX = 1.92$$

# SOLUTIONS

## Exercise 8e, # 8 p. 232

a)

$$\frac{5}{9} = \frac{7.4}{7.4 + a}$$
$$37 + 5a = 66$$
$$5a = 29$$
$$a = 5\frac{5}{4}$$

b)

$$\frac{c}{8} = \frac{11}{7}$$
$$7c = 88$$
$$c = \frac{88}{7}$$

$$\frac{b}{10} = \frac{11}{7}$$
$$7b = 110$$
$$b = \frac{110}{7}$$

# SOLUTIONS

## Exercise 8e, # 9 p. 232

a)

$$\frac{a}{a+4} = \frac{3}{5}$$

$$5a = 3a + 12$$

$$2a = 12$$

$$a = 6$$

$$\frac{7}{b} = \frac{3}{5}$$

$$3b = 35$$

$$b = \frac{35}{3}$$

b)

$$\frac{c}{2} = 2$$

$$c = 4$$

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

$$d = 10$$

# SOLUTIONS

## Exercise 8e, # 9c p. 232

$$\frac{e}{18} = \frac{5}{7}$$

$$7e = 90$$

$$e = \frac{90}{7} \text{ or } 12\frac{6}{7}$$

# SOLUTIONS

## Exercise 8e, # 9d p. 233

$$\frac{2}{3} = \frac{AC}{AC + CE}$$
$$2AC + 2CE = 3AC$$
$$2CE = AC$$

$$\frac{CE}{AC + CE} = \frac{4}{h}$$
$$\frac{CE}{2CE + CE} = \frac{4}{h}$$
$$\frac{CE}{3CE} = \frac{4}{h}$$
$$h = 12$$

# SOLUTIONS

## Exercise 8e, # 9e p. 233

$$\frac{CQ}{i + 24} = \frac{32}{50}$$

$$\frac{24}{i + 24} = \frac{16}{25}$$

$$600 = 16i + 384$$

$$16i = 216$$

$$i = 13.5$$

# SOLUTIONS

## Exercise 8e, # 10, 11, 12 p. 233

10.

$$\frac{2.1}{18} = \frac{1.4}{AB}$$

$$2.1AB = 25.2$$

$$AB = 12m$$

11.

$$\frac{4}{15} = \frac{SR}{30}$$

$$15SR = 120$$

$$SR = 8m$$

12.

$$a) PQS \approx RQP$$

$$b) \frac{8}{10} = \frac{QS}{8}$$

$$10QS = 64$$

$$QS = 6.4$$