

RatiosII – Sheet #1

- 1) a) $9 \cdot G = 7 \cdot N$
 $G = \frac{7}{9} N$
 $N = \frac{9}{7} G$
b) \$10.50/hr
c) \$11.70/hr
- 2) B and C
- 3) a) $5 \cdot B = 6 \cdot G$
 $B = \frac{6}{5} G$
 $G = \frac{5}{6} B$
b) $\frac{6}{11}$
c) $\frac{5}{11}$
d) 396
e) 275
f) 150 guavas,
180 bananas
- 4) $X = 3\frac{1}{2}"$, $Y = 5\frac{5}{6}"$
- 5) $B:H = 7:4$
 $H:B = 4:7$
 $B:H = 1.75:1$
 $H:B \approx 0.571:1$
- 6) a) 0.5
b) 0.45
c) 0.3125
d) 0.185
- 7) a) John is finished once he gets a remainder that has already appeared.
b) 16
c) 0.294776470588235
- 8) No such fraction exists.
- 9) 5041
- 10) 1681
- 11) 441
- 12) 396
- 13) 884
- 14) 9991
- 15) 2809
- 16) 624
- 17) 90
- 18) 1340
- 19) 0.06
- 20) 279
- 21) a) $33\frac{1}{3}\%$
b) 50%
c) 75%
d) $16\frac{2}{3}\%$
e) 25%
f) $66\frac{2}{3}\%$
- 22) 0.0000000032
- 23) 5000
- 24) 90,000
- 25) 300
- 26) $14\frac{2}{3}$

27) $2\frac{5}{6}$

28) $\frac{16}{33}$

RatiosII – Sheet #2

- 1) Three things are the same: their shape, their angles, and the ratio of the lengths of their sides.
- 2) 24cm
- 3) $x = 9.33m$; $y = 12$
- 4) a) 2.9cm
b) 2.1cm
c) $B:H \approx 1.38:1$
d) $H:B \approx 0.724:1$
- 5) a) $1\frac{1}{8}"$
b) $\frac{13}{16}"$
c) $B:H \approx 1.38:1$
d) $H:B \approx 0.722:1$
- 6) Every fraction is exactly equivalent to a decimal that either repeats or ends, and For any fraction, when the numerator is divided by the denominator, the most number of digits that can appear under the repeat bar, is one less than the number in the denominator.
- 7) a) $B:J = 10:7$
b) $B:J = 7:10$
c) 3m
d) 2.24m
e) The greater the person's weight, the closer they must sit to the fulcrum, and vice versa.
- 8) a) 20 miles
b) speed = 32mph
time = $37\frac{1}{2}$ minutes
c) speed = 60mph
time = 20 minutes
d) The greater the speed, the less time the trip takes, and vice versa.
- 9) 961
- 10) 3721
- 11) 8281
- 12) 3136
- 13) 490
- 14) 6384
- 15) 0.8

16) 90,000

17) a) 42

b) 28

c) 63

d) 7

18) $63\frac{2}{9}$

19) $12\frac{27}{49}$

20) $\frac{7}{18}$

RatiosII – Sheet #3

- 1) $B:H = 37:24$
 $H:B = 24:37$
 $B:H = 1.541\bar{6}:1$
 $H:B = 0.648\bar{1}:1$
- 2) Answers may vary.
- 3) a) $B:H = 2.75:1$
b) $B = 2.75 \cdot H$
 $H = B \div 2.75$
- 4) 175 golf,
245 baseball
- 5) 43.75m
- 6) \$43.75
- 7) 656
- 8) 882
- 9) 972
- 10) 9996
- 11) 8800
- 12) 50
- 13) 1260
- 14) 8470
- 15) 60
- 16) 560
- 17) $33\frac{1}{3}\%$
- 18) 25%
- 19) 48
- 20) a) 72 miles
b) 4 hours, 48 miles
c) $\frac{2}{3}$ as far
d) 8 hours, 96 miles
e) $\frac{4}{3}$ as far
f) The longer the time, the further you go, and vice versa.
- 21) a) 19cm
b) 660hz
c) $C:A = 5:4$
d) $C:A = 4:5$
e) 22.8cm
f) The longer the string, the lower the frequency, and vice versa.
- 22) a) 0.142857
b) 0.285714
c) 0.428571

d) 0.571428

e) 0.714285

f) 0.857142

23) a) 142,857

b) 285,714

c) 428,571

d) 571,428

e) 714,285

f) 857,142

g) 999,999

24) a) 99

b) 999

RatiosII – Sheet #4

- 1) a) 0.692307
b) 1.4
- 2) 3.5m
- 3) $C:D = 3:8$
 $D:C = 8:3$
 $C:D = 0.375:1$
 $D:C = 2.6:1$
- 4) a) 12 minutes
b) 13.5 mph
c) $17\frac{1}{2}$ minutes
d) ≈ 9.26 mph
- 5) a) 1.0 miles
b) $6\frac{2}{3}$ mph
c) 1.35 miles
d) 9 mph
- 6) a) $B:H = 22:9$
b) $22 \cdot H = 9 \cdot B$
 $H = \frac{9}{22} B$
 $B = \frac{22}{9} H$
c) $B:H = 2.4:1$
d) $B = 2.4 \cdot H$
 $H = B \div 2.4$
e) $H:B = 0.409:1$
f) $H = 0.409 \cdot B$
 $B = H \div 0.409$
- 7) The best answers are:
a) $D:X \approx 1.414:1$
b) $X:D \approx 0.707:1$

RatiosII – Sheet #5

- 1) a) $B:G = 3:4$
b) $3 \cdot G = 4 \cdot B$
 $B = \frac{3}{4} G$
 $G = \frac{4}{3} B$
c) $B:G = 0.75:1$
d) $B = 0.75 \cdot G$
 $G = B \div 0.75$
- 2) a) $F:W = 11:18$
b) $11\frac{5}{11}$ cups

- 3) a) $X:D \approx 5:7$
 $7 \cdot X \approx 5 \cdot D$
 $X \approx \frac{5}{7} D$
 $D \approx \frac{7}{5} X$
 b) $D:X \approx 7:5$
 $7 \cdot X \approx 5 \cdot D$
 $X \approx \frac{5}{7} D$
 $D \approx \frac{7}{5} X$
 c) $X:D \approx 0.707:1$
 $X \approx 0.707 \cdot D$
 $D \approx X \div 0.707$
 d) $D:X \approx 1.414:1$
 $D \approx 1.414 \cdot X$
 $X \approx D \div 1.414$
- 4) a) $\approx 21\text{m}$ or 21.21m
 b) $\approx 6.363\text{m}$ or $6\frac{3}{7}\text{m}$
- 5) $5\frac{1}{4}\text{ft.}$
- 6) a) 376
 b) 2800
- 7) The best answer is:
 a) $D:C \approx 0.318:1$
 b) $C:D \approx 3.14:1$

RatiosII – Sheet #6

- 1) a) $\approx 49\text{cm}$ or 49.49cm
 b) $\approx 15\text{m}$ or 14.85m
 c) $\approx 4.242\text{ft}$ or $4\frac{1}{5}\text{ft}$
 d) $\approx 1.414\text{m}$ or $1\frac{3}{7}\text{m}$
- 2) a) $C:D \approx 22:7$
 $22 \cdot D \approx 7 \cdot C$
 $D \approx \frac{7}{22} \cdot C$
 $C \approx \frac{22}{7} \cdot D$
 b) $D:C \approx 7:22$
 $22 \cdot D \approx 7 \cdot C$
 $D \approx \frac{7}{22} \cdot C$
 $C \approx \frac{22}{7} \cdot D$
 c) $C:D \approx 3.14:1$
 $C \approx 3.14 \cdot D$
 $D \approx C \div 3.14$
 d) $D:C \approx 0.318:1$
 $D \approx 0.318 \cdot C$
 $C \approx D \div 0.318$
- 3) a) $\approx 66\text{m}$ or 65.94m
 b) $\approx 105\text{ft}$
- 4) $D:C \approx 0.306:1$
 $C:D \approx 3.27:1$
- 5) 465
 6) 4680
 7) 735
 8) 5.5

- 9) 39
 10) 961
 11) 2704
 12) 1591
 13) 70
 14) $3\frac{1}{2}$
 15) 0.00008
 16) 108
 17) 2636.36
 18) 10%
 19) 11.1% or $11\frac{1}{9}\%$
- 20) a) $\frac{1}{3}$
 b) $\frac{3}{8}$
 c) $\frac{17}{20}$
- 21) $9\frac{1}{7}$
 22) $\frac{44}{5}$
 23) $67\frac{3}{10}$

RatiosII – Sheet #7

- 1) a) $6 \cdot T = 5 \cdot R$
 $T = \frac{5}{6} R$
 $R = \frac{6}{5} T$
 b) $47\frac{1}{2}\text{kg}$
 c) 54 kg
- 2) $X = 7\frac{2}{3}\text{m}$ or $\approx 7.22\text{m}$
 $Y = 8\frac{1}{3}\text{m}$ or $\approx 8.33\text{m}$
- 3) π is how many times bigger the circumference is than the diameter.
- 4) Answers may vary.
 5) Answers may vary.
- 6) a) No
 b) 0.563
 c) No
 d) An exact value cannot be given.
- 7) a) 3.142857
 b) Larger than
- 8) a) $22 \cdot D \approx 7 \cdot C$
 $D \approx \frac{7}{22} \cdot C$
 $C \approx \frac{22}{7} \cdot D$
 b) Same answer as for part A.
 c) $C \approx 3.14 \cdot D$
 $D \approx C \div 3.14$
 d) $D \approx 0.318 \cdot C$
 $C \approx D \div 0.318$
 e) $\approx 24\frac{1}{2}\text{ft.}$
 f) ≈ 25.12 or $25\frac{1}{7}\text{in.}$
 g) $\approx 242\text{m}$
 h) ≈ 1.272 or $1\frac{3}{11}\text{cm}$

- 9) a) $7 \cdot X \approx 5 \cdot D$
 $X \approx \frac{5}{7} D$
 $D \approx \frac{7}{5} X$
 b) Same answer as for part A.
 c) $D \approx 1.414 \cdot X$
 $X \approx D \div 1.414$
 d) $X \approx 0.707 \cdot D$
 $D \approx X \div 0.707$
 e) ≈ 28 or 28.28m
 f) ≈ 21.21 or $21\frac{3}{7}\text{m}$
 g) ≈ 77.77 or 77m
 h) ≈ 30 or 29.7m
- 10) a) 736
 b) 1690
 c) 3735
- 11) 3364
 12) 2496
 13) 3599
 14) 0.36
 15) 6993
 16) 0.1129375
 17) $1\frac{2}{5}$
 18) $22\frac{2}{5}$

RatiosII – Sheet #8

- 1) a) $B:H = 21:16$
 b) $16 \cdot B = 21 \cdot H$
 $B = \frac{21}{16} H$
 $H = \frac{16}{21} B$
- 2) a) $B:H = 1.83:1$
 b) $B = 1.83 \cdot H$
 $H = B \div 1.83$
- 3) $J:K = 5:8$
 $K:J = 8:5$
 $J:K = 0.625:1$
 $K:J = 1.6:1$
- 4) a) 1470
 b) 6300
 c) 3243
- 5) 0.7
 6) 340
 7) 836
 8) 1681
 9) 35,700
 10) 36
 11) 2100
 12) 96
 13) a) 20%
 b) 40%
 c) $37\frac{1}{2}$
- 14) \$247
 15) \$264.29

- 16) a) The four ratios and their thoughts are:
 1. $C:D \approx 22:7$
 $(C \approx \frac{22}{7} \cdot D)$
 2. $D:C \approx 7:22$
 $(D \approx \frac{7}{22} \cdot C)$
 3. $C:D \approx 3.14:1$
 $(C \approx 3.14 \cdot D)$
 4. $D:C \approx 0.318:1$
 $(D \approx 0.318 \cdot C)$
 b) $\approx 110\text{m}$
 c) ≈ 9.42 or $9\frac{3}{7}\text{m}$
 d) $\approx 14\text{m}$
 e) ≈ 6.36 or $6\frac{4}{11}\text{m}$
- 17) a) The four ratios and their thoughts are:
 1. $D:X \approx 7:5$
 $(D \approx \frac{7}{5} X)$
 2. $X:D \approx 5:7$
 $(X \approx \frac{5}{7} D)$
 3. $D:X \approx 1.414:1$
 $(D \approx 1.414 \cdot X)$
 4. $X:D \approx 0.707:1$
 $(X \approx 0.707 \cdot D)$

- b) ≈ 24.745 or 25m
 c) ≈ 84.84 or 84m
 d) ≈ 49.49 or 49ft.
 e) ≈ 2.828 or $2\frac{6}{7}\text{m}$

Rates – Sheet #1

- 1) 50 mph
 2) 46 mph
 3) 60 mph
 4) \$900
 5) 4 hours
 6) 3 hours 20 min.
 7) \$10.80/hr
 8) \$8.50/hr
 9) \$12.25
- 10) a) Every hour he goes 50 miles.
 b) Every hour he goes 60 km.
 c) Every second he goes 30m.
 d) The order is: Wilbur, Ken Henry
- 11) a) 5185
 b) 3139
- 12) 615
 13) 1575

- 14) 0.2345
- 15) 11,130
- 16) 45
- 17) 516
- 18) $3\frac{1}{2}$
- 19) 820
- 20) 3
- 21) 4.5
- 22) 64
- 23) 3900
- 24) B:H = 4:3
H:B = 3:4
B:H = 1.3:1
H:B = 0.75:1
- 25) 25%
- 26) 20%
- 27) 62

Rates – Sheet #2

- 1) a) \$193.75
b) 56 hrs or
2 weeks 6 hours
- 2) \$9.60/hr
- 3) \$310.20
- 4) 5 hours
- 5) 15 mph
- 6) $17\frac{1}{2}$ minutes
- 7) $8\frac{3}{5}$ or 8.6 mph
- 8) 143 mpg
- 9) 240 miles
- 10) 3840m or 3.84km
- 11) $5\frac{1}{2}$ miles
- 12) 5:07pm
- 13) ≈ 38 hrs 38min.
- 14) a) 1904
b) 5684
- 15) 732
- 16) 3721
- 17) 229,977
- 18) 0.75
- 19) 160
- 20) 1860
- 21) a) D:X \approx 7:5
X:D \approx 5:7
D:X \approx 1.414:1
X:D \approx 0.707:1
b) \approx 40 ft.
c) \approx 5.656 or $5\frac{3}{5}$ ft.
d) \approx 119 or 120.19 ft.
e) \approx 4.242 or $4\frac{2}{7}$ ft.

Rates – Sheet #3

- 1) 2 hrs 48 min

- 2) 55 miles
- 3) $9\frac{1}{3}$ mph
- 4) 48 minutes
- 5) 352 miles
- 6) \$22.50/hr
- 7) $1\frac{1}{2}$ miles
- 8) \$30,000/year
- 9) a) 5 mph
b) 36 mph
c) $16\frac{2}{3}$
or 16.875 mph
d) 11 mph
- 10) 40 mph
- 11) 80 mph
- 12) 95 mph
- 13) 95 mph
- 14) 15 mph
- 15) 3534
- 16) 377
- 17) 0.0055
- 18) 6.3
- 19) 6600
- 20) 12,208
- 21) 9
- 22) 10,712
- 23) a) C:D \approx 22:7
D:C \approx 7:22
C:D \approx 3.14:1
D:C \approx 0.318:1
b) \approx 88 ft.
c) \approx 26.1m
d) \approx 14 ft.
e) \approx 1.59 or $1\frac{13}{22}$ cm

Rates – Sheet #4

- 1) 5 hrs 40 min
- 2) a) 280 miles
b) 154 miles
c) 67.2 miles
- 3) 10:40am
- 4) 6.4 mph
- 5) a) 11.8 gallons
b) At least 7 times.
- 6) $42\frac{2}{3}$ mph
- 7) at 10:51am,
4.8 miles from home
- 8) 6.4 mph
- 9) problem #4
- 10) $7\frac{1}{2}$ mph
- 11) a) increase
b) directly proportional
c) $\frac{7}{8}$ as far
- 12) a) decrease
b) inversely prop.

- c) $\frac{8}{7}$ as long
- 13) a) increases
b) directly proportional
c) $\frac{7}{8}$ as far
- 14) 1610
- 15) 472
- 16) 775
- 17) 3900
- 18) 9.6
- 19) 468
- 20) 28
- 21) \$6.90
- 22) 350
- 23) 88
- 24) 20%
- 25) 80%
- 26) 150
- 27) 18

Rates – Sheet #5

- 1) $10\frac{5}{8}$ or 10.625 miles
- 2) a) \$3696/month
b) 8 hrs 20 minutes
c) \approx 2 months 15 $\frac{1}{2}$ days
or 416 $\frac{3}{4}$ hours
- 3) \$23.75/hr
- 4) a) 20 mph
b) 8 mph
c) $11\frac{3}{7}$ or \approx 11.4 mph
- 5) a) equal to
b) less than
- 6) a) When speed increases,
time decreases, and
vice versa.
b) When speed in-
creases or decreases,
distance does the same.
- 7) a) 250 miles
b) 360 miles
c) 6 hours
d) 4 hrs 10 minutes
- 8) a) \approx 65.9 mph
b) 5 hrs 40 minutes
c) 210 miles
d) \approx 45.2 mpg
e) 9.3 gallons
- 9) 40 mph
- 10) They meet at 6:05,
332.5 miles from
Bigtown.
- 11) 62,300
- 12) 6561
- 13) 3
- 14) 11,988
- 15) 1.3

- 16) 11,449
- 17) 9900
- 18) 38
- 19) 4
- 20) 22,440
- 21) \$292.04
- 22) 6.5%

Rates – Sheet #6

- 1) a) 210 mph
b) 1207 $\frac{1}{2}$ miles
c) 7 $\frac{1}{2}$ hours
- 2) a) 28 mpg
b) 532 miles
- 3) a) 4 $\frac{1}{2}$ hours
b) 3 hrs 33min 20 sec
or $3\frac{5}{9}$ hours
c) 64 miles
d) 81 miles
- 4) 5 hours
- 5) a) 6 mph
b) 30 mph
c) 10 mph
- 6) 15 mph
- 7) a) \approx 10.1 m/s
b) \approx 36.4 or 36.5 km/h
c) \approx 22.5 or 22.6 km/h
- 8) At 3:57, at \approx 1073
miles from Denver.
- 9) At 10:37, at 60 miles
from the bridge.
- 10) 858
- 11) 19
- 12) 66.4
- 13) 620
- 14) 2860
- 15) 4221
- 16) 2.965
- 17) 385
- 18) X = $3\frac{9}{17}$ m or \approx 3.53m
Y = $1\frac{15}{17}$ m or \approx 1.88m
- 19) 1800
- 20) 189

Geometry Sh #1

- a) 40°
b) vertical
- a) 140°
b) supplementary
- a) 152°
b) 80°
- a) 55°
b) 97°
c) 60°
- a) 25 ft^2
b) 2500 ft^2
c) 250000 ft^2
- a) Area = 15 in^2
Perimeter = 16 in
b) Area = 120 cm^2
Perimeter = 60cm
c) Area = $7\frac{1}{2} \text{ in}^2$
Perimeter = 15 in
- 5985
- 180
- 1,200,000
- 0.947
- 2601
- 770
- 32
- 441
- 0.3
- $1\frac{2}{3}$
- 56.2
- B:H = 5:2
H:B = 2:5
B:H = 2.5:1
H:B = 0.4:1
- a) C:D \approx 22:7
D:C \approx 7:22
C:D \approx 3.14:1
D:C \approx 0.318:1
b) ≈ 15.7 or $15\frac{2}{7} \text{ m}$
c) $\approx 44 \text{ ft.}$
d) ≈ 4.45 or $4\frac{5}{11} \text{ in.}$
e) $\approx 70 \text{ ft.}$
- a) D:X \approx 7:5
X:D \approx 5:7
D:X \approx 1.414:1
X:D \approx 0.707:1
b) ≈ 63.63 or 63 ft.
c) ≈ 45.248 or $44\frac{4}{5} \text{ ft.}$
d) ≈ 54.439 or 55 ft.
e) ≈ 22.624 or $22\frac{6}{9} \text{ ft.}$

Geometry Sh #2

- a) 36°
b) vertical
- a) 110°
b) corresponding
- a) 97°
b) same-side interior
- a) 113°
b) alternate interior
- a) 95°
b) X= 132° ; Y= 48° ;
Z= 48°
c) 50°
d) X= 90° ; Y= 39° ;
W= 39° ; Z= 51°
- (Answers will vary.)
- a) Area = 1000 cm^2
Perimeter = 140cm
b) Area = 12.25 ft^2
Perimeter = 14 ft.
c) Area = 630 ft^2
Perimeter = 126 ft.
d) Area = 3750 cm^2
or 0.375 m^2
Perimeter = 300cm
or 3m
- Both are 270 ft^2
- All are 96 m^2
- (Answers will vary.)
- 2040
- 2491
- 900
- 810
- 4896
- 1600
- 70
- 2916
- $3\frac{11}{15} \text{ cm}$ or $\approx 3.73 \text{ cm}$
- 33 miles
- a) D:C = 7:11
b) $7 \cdot C = 11 \cdot D$
D = $\frac{7}{11} C$
C = $\frac{11}{7} D$
c) D:C = 0.63:1
d) D = $0.63 \cdot C$
C = $D \div 0.63$
e) 49 dogs, 77 cats

Geometry Sh #3

- a) 96 cm^2
b) 5.6 m^2
c) 340 in^2
d) $5\frac{1}{16} \text{ in}^2$
e) 170 in^2
- a) Q,Y,Z = 155°
X,M,W = 25°
b) supplementary
c) vertical
d) corresponding
e) same-side interior
f) alternate interior
g) corresponding
- a) Area = 340 in^2
Perimeter = 76 in.
b) Area = 170 in^2
Perimeter = 77 in.
- a) 125°
b) X and Y = 110°
c) 25°
- a) 256 cm^2
b) 128 cm^2
c) 128 cm^2
d) 96 cm^2
e) 96 cm^2
f) 96 cm^2
g) 160 cm^2
h) 128 cm^2
i) 20 cm
- a) 25°
b) 145°
c) 60°
d) $\angle B$ and $\angle C = 40^\circ$
- 9021
- 0.00052
- 649
- 2704
- 69,993
- 0.8
- 0.6
- 1600
- 7000
- 9
- $72\frac{1}{2} \text{ mph}$
- $\approx 26.1 \text{ mpg}$
- 6520

Geometry Sh #4

- a) Area = 10.8 cm^2
Perimeter = 13.8cm
b) Area = 210 ft^2
Perimeter = 70 ft.
- a) B and D = 75°
A, C, E = 105°
b) 62°
- | n | X | Y | Z |
|---|----|----|----|
| 1 | 3 | 4 | 5 |
| 2 | 5 | 12 | 13 |
| 3 | 7 | 24 | 25 |
| 4 | 9 | 40 | 41 |
| 5 | 11 | 60 | 61 |
| 6 | 13 | 84 | 85 |
- | u | v | X | Y | Z |
|---|---|----|----|----|
| 2 | 1 | 3 | 4 | 5 |
| 4 | 1 | 15 | 8 | 17 |
| 6 | 1 | 35 | 12 | 37 |
| 8 | 1 | 63 | 16 | 65 |
| 3 | 2 | 5 | 12 | 13 |
| 5 | 2 | 21 | 20 | 29 |
| 7 | 2 | 45 | 28 | 53 |
| 9 | 2 | 77 | 36 | 85 |
| 4 | 3 | 7 | 24 | 25 |
| 8 | 3 | 55 | 48 | 73 |
| 5 | 4 | 9 | 40 | 41 |
| 7 | 4 | 33 | 56 | 65 |
| 9 | 4 | 65 | 72 | 97 |
| 6 | 5 | 11 | 60 | 61 |
| 8 | 5 | 39 | 80 | 89 |
| 7 | 6 | 13 | 84 | 85 |

Geometry Sh #5

- a) 180 m^2
b) $\frac{15}{64} \text{ in}^2$
c) 1800 cm^2
d) $72\frac{1}{4} \text{ in}^2$
e) 66 ft^2
- a) 75°
b) A= 120° ; B= 80° ;
C = 125°
c) 145°
- 120°
- a) 130 in.
b) 80 ft.
- a) 105.6 m^2
b) 13.44 m^2
c) 13.44 m^2
d) 92.16 m^2
e) 52.8 m^2
f) 39.36 m^2

- 6) a) $X=16; Y=30; Z=34$
 b) $X=27; Y=36; Z=45$
 7) a) They were all reduced.
 b) Because they weren't reduced.
 8) 0.021
 9) 2760
 10) 420,000
 11) 1016
 12) 2025
 13) 693
 14) 884
 15) 6
 16) 132 miles
 17) At 1:46pm

Geometry Sh #6

- 1) a) 1.02m
 b) 0.054 m^2
 c) 102 cm
 d) 540 cm^2
 2) a) 540°
 b) 132°
 c) 115°
 d) 120°
 3) $48^\circ, 52^\circ, 80^\circ$
 4) $A=75^\circ, E=103^\circ$
 $B, C, D = 60^\circ$
 5) $A=132^\circ, B=148^\circ,$
 $C=138^\circ, D=77^\circ, E=63^\circ$
 6) 2116
 7) 3.6
 8) 9025
 9) 0.000039
 10) 10,816
 11) 1287
 12) 48
 13) 612
 14) $1\frac{1}{2} \text{ ft.}$
 15) $1\frac{3}{4} \text{ gal.}$
 16) 47,520
 17) a) less than
 b) equal to
 18) 80%
 19) $44\frac{2}{9}\%$ or $44.\bar{2}\%$
 20) 12 miles
 21) $124,620\frac{5}{7}$
 22) 985.135

$\sqrt{\quad}$ Algorithm Sh #1

- 1) Every fraction is exactly equivalent to a decimal that either repeats or ends. And, for any fraction, when the numerator is divided by the denominator, the most number of digits that can appear under the repeat bar is one less than the number in the denominator.
 2) a) 0.3518
 b) 0.152
 c) 0.7307692
 3) a) 6
 b) 60
 c) 600
 d) 6000
 e) 12
 f) 120
 g) 1200
 h) 12,000
 i) 700
 j) 30
 k) 500
 l) 200
 m) 2000
 4) a) 2
 b) 2
 c) 3
 d) 3
 e) 4
 f) 4
 g) 13
 h) 13
 5) The answer for a square root problem has half the number of digits (after possible rounding) of the original problem.
 6) a) 400
 b) 8100
 c) 160,000
 d) 90,000
 e) 49,000,000
 f) 1,210,000
 g) 6,400,000,000
 h) 401,956
 7) 5 or 6

- 8) Squaring a number gives an answer that has twice the number of digits, or one less than that.
 9) a) 39
 b) 68
 c) 273

$\sqrt{\quad}$ Algorithm Sh #2

- 1) a) 4000
 b) 300
 c) 1100
 d) 360,000
 e) 225,000,000
 2) a) 2; 5
 b) 3; 7
 c) 2; 3
 d) 3; 2
 e) 4; 8
 f) 3; 2
 3) a) 16 ft.
 b) 64 ft.
 c) 144 ft.
 d) 400 ft.
 e) 1600 ft.
 f) 57,600 ft.
 (more than 10 miles!)
 4) a) $\sqrt{576} = 24 \text{ m}^2$
 b) $\sqrt{7056} = 84 \text{ ft}^2$
 c) $\sqrt{56} \approx 7.48 \text{ cm}^2$
 5) a) 676
 b) 6889
 c) 5476
 d) 1521

$\sqrt{\quad}$ Algorithm Sh #3

- 1) a) 2; 8
 b) 3; 2
 c) 3; 9
 d) 2; 2
 e) 4; 3
 2) a) 3249
 b) 196
 c) 9025
 3) a) 57
 b) 73
 c) 28
 d) 92

$\sqrt{\quad}$ Algorithm Sh #4

- 1) a) 45
 b) 19
 c) 84
 d) 66
 2) a) 534
 b) 267
 c) 724
 d) 876

$\sqrt{\quad}$ Algorithm Sh #5

- 1) 429
 2) 358
 3) 186
 4) 2365
 5) 8493

$\sqrt{\quad}$ Algorithm Sh #6

- 1) a) 635
 b) 247
 c) 4913
 2) a) 635
 b) 247
 c) 4913
 d) 627
 e) 382

$\sqrt{\quad}$ Algorithm Sh #7

- 1) a) 852
 b) 269
 c) 5363
 2) a) 816
 b) 2458

$\sqrt{\quad}$ Algorithm Sh #8

- 1) 46
 2) 572
 3) 643
 4) 827
 5) 4289
 6) 9307