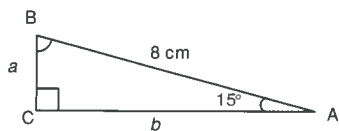
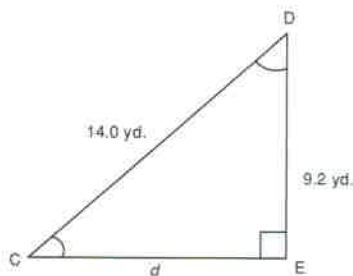


Cumulative Review Chapters 1–4, page 262

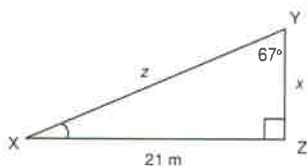
1. a) About 0.7 m
 b) About 70°
 2. a) $\angle A = 15^\circ$, $\angle B = 75^\circ$, $\angle C = 90^\circ$,
 $a \doteq 2$ cm, $b \doteq 8$ cm, $c = 8$ cm



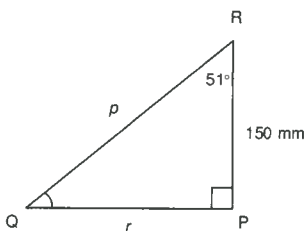
- b) $\angle C \doteq 41^\circ$, $\angle D \doteq 49^\circ$, $\angle E = 90^\circ$,
 $c = 9.2$ yd., $d \doteq 10.6$ yd., $e = 14.0$ yd.



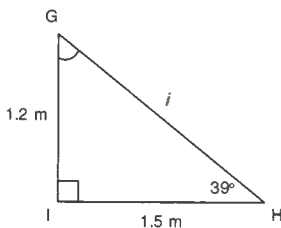
- c) $\angle X = 23^\circ$, $\angle Y = 67^\circ$, $\angle Z = 90^\circ$,
 $x \doteq 9$ m, $y = 21$ m, $z \doteq 23$ m



- d) $\angle P = 90^\circ$, $\angle Q = 39^\circ$, $\angle R = 51^\circ$,
 $p \doteq 238$ mm, $q = 150$ mm, $r \doteq 185$ mm



- e) $\angle G \doteq 51^\circ$, $\angle H \doteq 39^\circ$, $\angle I = 90^\circ$,
 $g = 1.5$ m, $h = 1.2$ m, $i \doteq 1.9$ m



3. a) $\angle D \doteq 153^\circ$
 b) $\angle D \doteq 102^\circ$
 c) $\angle D \doteq 157^\circ$
 d) $\angle D \doteq 143^\circ$
 e) $\angle D \doteq 172^\circ$
 f) $\angle D \doteq 140^\circ$
 4. a) Sine Law; $\angle R = 135^\circ$, $r \doteq 10.0$ km, $p \doteq 5.5$ km
 b) Cosine Law; $\angle T = 32^\circ$, $\angle U \doteq 9^\circ$, $t \doteq 11$ in.
 5. $z \doteq 1.7$ ft.
 6. a) About 76 mi.
 b) 177°
 7. a) About 2.3 sq. in.
 b) About 36.9 cm²; about 7.2 cm³
 8. a) 7 m by 7 m; 49 m²
 b) 11 in. by 11 in.; 121 sq. in.
 c) 2.5 cm by 2.5 cm; 6.25 cm²
 d) 23.5 ft. by 23.5 ft.; 552.25 sq. ft.
 9. a) Rectangles: 2 in. by 8 in., or 4 in. by 6 in.
 Triangles: 4 in., 8 in., 8 in., or
 6 in., 6 in., 8 in.
 b) A rectangle with dimensions closest to a square:
 4 in. by 6 in.; maximum area: 24 sq. in.
 10. a) 4 ft. by 4 ft. by 4 ft.; SA: 96 sq. ft.
 b) 9 m by 9 m by 9 m; SA: 486 m²
 c) About 6.1 cm by about 6.1 cm by about 6.1 cm;
 SA: about 222 cm²
 d) About 14.4 in. by about 14.4 in. by about
 14.4 in.; SA: about 1248 sq. in.
 11. a) 1 in. by 1 in. by 66 in.,
 2 in. by 2 in. by 32 in.,
 4 in. by 4 in. by 14 in.,
 5 in. by 5 in. by 10 in.,
 8 in. by 8 in. by 3 in.
 b) Maximum volume: 250 cu. in.
 12. a) Vertical bar graph
 b) No, Avery is incorrect. The graph is displaying
 one-variable data. Gender represents categories of
 data, not one of the variables being measured.
 13. a) Positive correlation
 b) Negative correlation
 c) Negative correlation
 d) Positive correlation
 14. a) Price of gasoline
 b) The remaining value of the car
 c) Probability of developing lung cancer
 15. Graph B has the best line of best fit. The line's path
 has shifted slightly downwards in response to the
 3 outliers below the main data cluster.
 16. a) i) There is a weak/moderate negative correlation.

- ii) There is a strong negative correlation; the data points are much closer, indicating a linear correlation.
- b) i) One should not try to model a line of best fit for graph in part i. The linear model would not provide accurate predictions.
ii) A linear model would provide accurate predictions.
17. a) First quartile: 1.5
Second quartile: 5
Third quartile: 7.5
b) First quartile: 104
Second quartile: 108
Third quartile: 110
18. a) 3 people
b) 18 people
c) 54 people
d) 1725 people
19. a) Only students in certain classes are surveyed. The sample is not representative of the entire school.
b) Ask every 5th person in the yearbook or out of a list of students provided by the administration.
c) Part b; every grade is represented equally. Part a, Carmelo's method, includes students from his class only.
d) The students may feel intimidated. Carmelo may ask the students to complete a written survey.
20. What does the vertical axis measure?
What does Taste Test Phase 1 and 2 indicate?
What happens between the 2 tests?
What breeds of dogs were tested?
What was the age distribution?
What does the horizontal axis measure?

Chapter 5 Graphical Models

Activate Prior Knowledge

Linear, Quadratic, and Exponential Graphs, page 267

1. a) 60
The distance travelled each hour is 60 km.
b) -200
The value of a computer decreases by \$200 each year.
2. a) (150, 22 500)
Maximum revenue is generated when 150 tickets are sold.
b) (2, 22)
A maximum height of 22 m is reached after 2 seconds.
3. The initial value appears as the vertical intercept in the graph. When the constant factor is greater than 1, the graph curves up. When the constant factor is between 0 and 1, the graph goes down and levels off.

5.1 Trends in Graphs, page 273

1. Part c
2. Part a
3. Part a
4. Part b

a)	i	Fallen dramatically
b)	iii	Fallen steadily
c)	ii	Remained constant
d)	i	Fluctuated

5. a) The immigrant population: increased rapidly from 1901 to 1911; remained fairly constant from 1911 to 1931; decreased steadily from 1931 to 1951; remained fairly constant from 1951 to 1991; increased slightly from 1991 to 2001
b) The number of births: decreased slowly from January to February; increased rapidly from February to March; remained fairly constant from March to September; decreased steadily from September to December
c) The exchange rate: fluctuated slightly from January 1970 to 1977; decreased steadily from 1977 to 1985; increased from 1985 to 1992; decreased from 1992 to 2004; increased rapidly from 2004 to present
d) Maximum safe heart rate during exercise decreased steadily with age.
7. a) Power increased very slowly for wind speeds of up to 5 m/s, then slowly, and then very rapidly.
b) 0 kW
No power is generated when there is no wind.
c) 100 kW
d) No
8. a) The power capacity fluctuated with a slow increasing trend.
c) Demand was constant Monday to Tuesday; increased steadily from Tuesday to Friday; decreased rapidly first, then slowly from Friday to Sunday.
d) Demand exceeded capacity on Friday.
9. a) The area increases as the length of the third side increases, reaches a maximum at 100 m, and then decreases rapidly.
b) i) 50 m or 130 m