Revision & Practice Worksheet 37

A Trigonometry: Practical applications in three dimensionals

Skill 8.9

1 Find the angle between the planes:

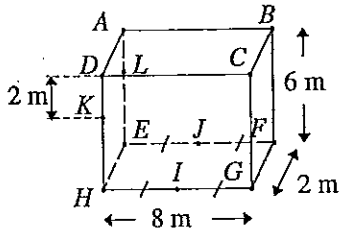
(a) *ABCD* and *KLBC*

(b) *ABCD* and *IJBC*

(c) *IJKL* and *ADEH*

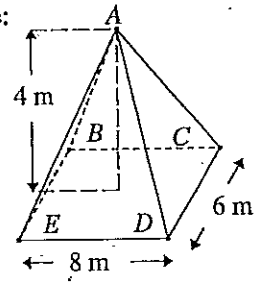
(d) *IJKL* and *EFHG*

(e) *IJBC* and *BCFG*



2 Find the angle that these planes make with the base:

(a) *ACD* (b) *ABC*



B Chance and data: Displaying continuous data

Skill 9.5

The following figures are the weight in grams of jelly beans eaten in a three minute jelly bean gobble competition. Tabulate the results using the intervals (250 to <275, 275 to <300, 300 to <325, 325 to <350, 350 to <375, 375 to <400) and display the results on a pie graph:

{260, 273, 252, 323, 378, 351, 292, 283, 254, 299, 315, 360, 392, 384, 331, 338, 384, 394}

C Chance and data: Working with continuous data

Skill 9.6

The following figures are the length of licorice that competitors eat (in cm) in a two minute licorice strap gobble competition. Tabulate the results using the intervals (100 to <120, 120 to <140, 140 to <150, 150 to <160, 160 to <180, 180 to <200, 200 to <220, 220 to <240). Set up a cumulative frequency table, draw the resulting cumulative frequency bar chart and determine the median value of licorice gobbled.

{115, 123, 148, 230, 189, 238, 173, 179, 110, 115, 193, 230, 236, 142, 149, 201, 215, 165, 238, 204, 228, 234}

D Calculators: Simple calculations

Skill 10.2

Calculate the following to two decimal places:

1 $4.09^2 + 1.02 + 5(6.03 - 11.4)$

2 $3 \times 2.07 + 15.03 - 12.09$

3 $\dfrac{(2.07 + 5.3)^2}{3.9} - 17.3$

4 $\sqrt{19.3 + 8.01} + 6.3 + 12.9$

5 $\dfrac{2\sqrt{19.4}}{3} + 11.7$

6 $\sqrt{\dfrac{2(9.3+4)}{3}} - 12.3$

7 $\dfrac{15.2^2 + 4\sqrt{2+9.1}}{3.8}$

8 $\dfrac{14.02^2}{3.9} + \sqrt{2\pi} - 11$

9 $\dfrac{5\sqrt{8.3+2}}{7} + 11.02 - 6.03$

10 $15.02(3 \times 9.02)^2 + 3.094$

E Calculators: Repeating an operation on a range of numbers

Skill 10.3

Complete the following operations on this data set:

{15.8, –3.2, 19.4, –100.2, 19.7, 38.4, 42.09, 15.07, –11.6, –12.8, –140.3}

1 multiply them by –2

2 divide them by 0.4

3 add 6.07 to them

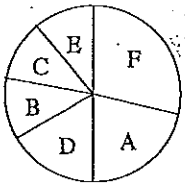
4 subtract 3.2 from them

Worksheet 37

A **1** (a) 14.04° (b) 56.31°
(c) 45° (c) 45°
(e) 33.69°
2 (a) 45° (b) 53.13°

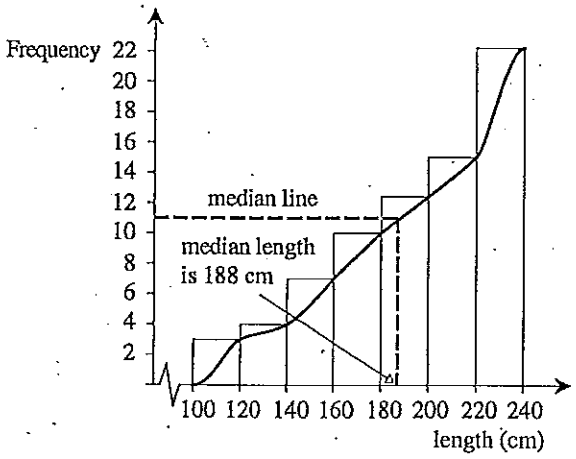
B

	Jelly bean weight (g)	*Tally*	*Freq.*	*Angle*
A	250 to < 275	𝍸	4	80°
B	275 to < 300	II	2	40°
C	300 to < 325	II	2	40°
D	325 to < 350	III	3	60°
E	350 to < 375	II	2	40°
F	375 to < 400	𝍸	5	100°



C

Licorice length (cm)	*Freq.*	*Cummulative freq.*
100 to < 120	3	3
120 to < 140	1	4
140 to < 160	3	7
160 to < 180	3	10
180 to < 200	2	12
200 to < 220	3	15
220 to < 240	7	22



D **1** 0.90 **2** 9.15 **3** −4.15
4 24.43 **5** 14.64 **6** −9.32
7 64.31 **8** 41.91 **9** 7.28
10 11 001.39

E **1** −31.6, 6.4, −38.8, 200.4, −39.4, −76.8, −84.18, −30.14, 23.2, 25.6, −280.6
2 39.5, −8, 48.5, −250.5, 49.25, 96, 105.225, 37.675, −29, −32, −350.75
3 21.87, 2.87, 25.47, −94.13, 25.77, 44.47, 48.16, 21.14, −5.53, −6.73, −134.23
4 12.6, −6.4, 16.2, −103.4, 16.5, 35.2, 38.89, 1187, −14.8, −16, 143.5