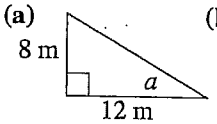
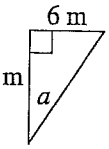
Revision & Practice Worksheet 34

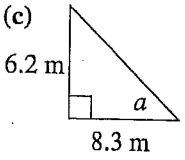
A Trigonometry: Using tan to find angles

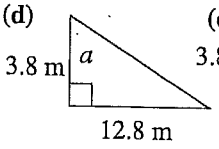
Skill 8.6

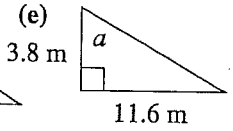
1 Find angles expressed in decimal form:

(a) 

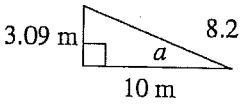
(b) 

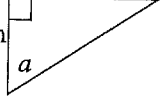
(c) 

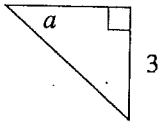
(d) 

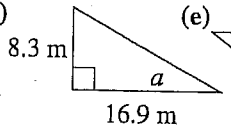
(e) 

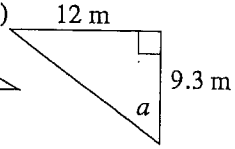
2 Find the angles expressed in degree/min form:

(a) 

(b) 

(c) 

(d) 

(e) 

B Chance and data: Probability and gambling odds

Skill 9.12

1 Express the bookies odds on the following horses as probabilities (numbers between 0 and 1):

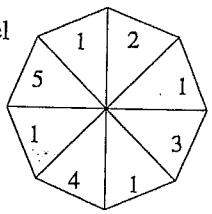
Blue Boy 3:1, Alex's Girl 1:1, Alice's Girl 4:1, Katie's Cauldron 6:1, Ben's Blitz 2:3, Jenny's Joy 2:1, William's Winner 4:1, Billy Boy 14:1.

2 Find the pay-out if each of the horses in **1** were to win with a \$10 bet.

C Chance and data: Simultating experiments

Skill 9.13

Assign random numbers generated by a calculator (0– 999) to model the spin of this spinner and model 20 spins.



D Calculators: Scientific notation

Skill 10.6

Calculate:

1 $6.03 \times 10^4 \times 8.04 \times 10^{12}$

2 $7.03 \times 10^4 \times 10^{-12} \times 10^{-13}$

3 $3.07 \times 10^9 \times 5 \times 10^{10}$

4 $1.73 \times 10^{-4} \times 6 \times 10^{11}$

5 $6.023 \times 10^{-9} \times 3.2 \times 10^{-12}$

6 $1.43 \times 10^9 + 6.3 \times 10^8 - 9.4 \times 10^{10}$

7 $8.6 \times 10^{11} \div 4.3 \times 10^6$

8 $3.8 \times 10^{12} \div 2 \times 10^8 \times 1.38 \times 10^9$

9 $4.09 \times 10^{-4} \div 2 \times 10^4 \times 6.3 \times 10^{18}$

10 $1.4 \times 10^{-19} \div 7 \times 10^{10} \times 5.02 \times 10^{-16}$

E Calculators: Reciprocals

Skill 10.7

1 Find the reciprocals of these numbers to 2 decimal places:

(a) 12.04 (b) π (c) $5\frac{1}{8}$ (d) $6\frac{1}{3}$

(e) $\sqrt{2}$ (f) 13.02 (g) $4\frac{1}{4}$ (h) -5.3

(i) 7.03 (j) 19.04

2 Use the reciprocal function to help calculate to 3 decimal places:

(a) $\dfrac{4}{2+\pi+3}$ (b) $\dfrac{5.05}{7+4.03+6}$ (c) $\dfrac{6}{\sqrt{2}+3+2.4}$ (d) $\dfrac{7}{2\sqrt{3}+6.03}$

(e) $\dfrac{14.02 \times 3}{\sqrt{3}+5+6.2}$

Worksheet 34

A **1** (a) 33.69° (b) 26.57° (c) 36.76°
(d) 73.47° (e) 71.86°

2 (a) 17°10' (b) 50°38' (c) 41°28'
(d) 26°9' (e) 53°13'

B **1**

	(a)	(b)
Blue Boy	$\frac{1}{4}$	\$40
Alice's Girls	$\frac{1}{5}$	\$50
Ben Blitz	$\frac{3}{5}$	\$16.67
William's Winner	$\frac{1}{5}$	\$50
Alex's Girl	$\frac{1}{2}$	\$20
Katie's Cauldron	$\frac{1}{7}$	\$70
Jenny's Joy	$\frac{1}{3}$	\$30
Bully Boy	$\frac{1}{15}$	\$150

C

Number	*Random number*	*Freq. from simulation*
1	0 – 499	10
2	500 – 624	4
3	625 – 747	1
4	750 – 874	2
5	875 – 999	3

Sample simulation: (27, 816, 808, 138, 97, 447, 573, 582, 502, 306, 747, 279, 24, 892, 357, 215, 520, 913, 894, 222)

D **1** 4.84812×10^{17} **2** 7.03×10^{-21}
3 1.535×10^{20} **4** 1.038×10^{-14}
5 1.92736×10^{-20} **6** -9.194×10^{10}
7 2×10^{5} **8** 2.622×10^{13}
9 1.28835×10^{11} **10** 1.004×10^{-45}

E **1** (a) 0.08 (b) 0.32 (c) 0.20
(d) 0.16 (e) 0.71 (f) 0.08
(g) 0.24 (h) –0.19 (i) 0.14
(j) 0.05

2 (a) 0.491 (b) 0.297 (c) 0.881
(d) 0.737 (d) 3.252