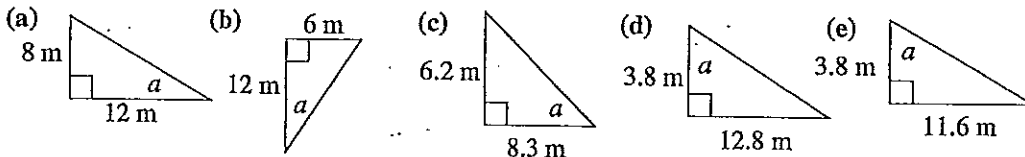


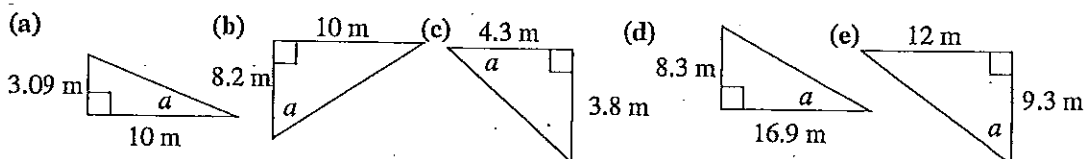
A Trigonometry: Using tan to find angles

Skill 8.6

1 Find angles expressed in decimal form:



2 Find the angles expressed in degree/min form:



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):

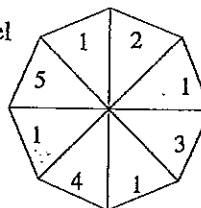
Blue Boy 3:1, Alex's Girl 1:1, Alice's Girl 4:1, Katie's Cauldron 6:1, Ben's Blitz 2:3, Jenny's Joy 2:1, William's Winner 4:1, Billy Boy 14:1.

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

C Chance and data: Simulating 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 $8.6 \times 10^{11} + 4.3 \times 10^6$ | 8 $3.8 \times 10^{12} \div 2 \times 10^8 \times 1.38 \times 10^9$ |
| 9 $4.09 \times 10^{-4} + 2 \times 10^4 + 6.3 \times 10^{18}$ | 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) $\frac{4}{2 + \pi + 3}$ | (b) $\frac{5.05}{7 + 4.03 + 6}$ | (c) $\frac{6}{\sqrt{2} + 3 + 2.4}$ | (d) $\frac{7}{2\sqrt{3} + 6.03}$ |
| (e) $\frac{14.02 \times 3}{\sqrt{3} + 5 + 6.2}$ | | | |

Worksheet 34

- A 1 (a) 33.69° (b) 26.57° (c) 36.76°
 (d) 73.47° (e) 71.86°
 2 (a) $17^\circ 10'$ (b) $50^\circ 38'$ (c) $41^\circ 28'$
 (d) $26^\circ 9'$ (e) $53^\circ 13'$

- 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