

Solutions for GeoWorkSheet No. 125

Solutions sheet No. 125				Mixed Trig Rule - Find an Angle 1					
Working using $a\sin A = b\sin B$ or $\cos A = \frac{b^2 + c^2 - a^2}{2bc}$									
No.	a	b	c	A	Angle	Equation	Calculator	Degrees	Solution
1	15	10		38	a	$\sin a^\circ = (15\sin 38^\circ)/10$	67.442081	67°	$a^\circ = 67^\circ$
2	34	37	45		b	$\cos b^\circ = (37^2 + 45^2 - 34^2)/(2 \times 37 \times 45)$	47.77281	47°	$b^\circ = 47^\circ$
3	17	12	28		c	$\cos c^\circ = (12^2 + 28^2 - 17^2)/(2 \times 12 \times 28)$	18.03032	18°	$c^\circ = 18^\circ$
4	50	40	55		d	$\cos d^\circ = (40^2 + 55^2 - 50^2)/(2 \times 40 \times 55)$	61.121454	61°	$d^\circ = 61^\circ$
5	33	28		43	e	$\sin e^\circ = (33\sin 43^\circ)/28$	53.492961	53°	$e^\circ = 53^\circ$
6	16	18		57	f	$\sin f^\circ = (16\sin 57^\circ)/18$	48.200769	48°	$f^\circ = 48^\circ$
7	100	72	109		g	$\cos g^\circ = (72^2 + 109^2 - 100^2)/(2 \times 72 \times 109)$	63.248958	63°	$g^\circ = 63^\circ$
8	20	18		57	h	$\sin h^\circ = (20\sin 57^\circ)/18$	68.726034	68°	$h^\circ = 68^\circ$
9	27	34	37		i	$\cos i^\circ = (34^2 + 37^2 - 27^2)/(2 \times 34 \times 37)$	44.452484	44°	$i^\circ = 44^\circ$
10	160	220	240		j	$\cos j^\circ = (220^2 + 240^2 - 160^2)/(2 \times 220 \times 240)$	40.415439	40°	$j^\circ = 40^\circ$
11	15.7	16.4		76	k	$\sin k^\circ = (15.7\sin 76^\circ)/16.4$	68.260998	68°	$k^\circ = 68^\circ$
12	8.2	12.2	11.3		l	$\cos l^\circ = (12.2^2 + 11.3^2 - 8.2^2)/(2 \times 12.2 \times 11.3)$	40.61797	40°	$l^\circ = 40^\circ$
13	7.2	5.8	6.8		m	$\cos m^\circ = (5.8^2 + 6.8^2 - 7.2^2)/(2 \times 5.8 \times 6.8)$	69.177339	69°	$m^\circ = 69^\circ$
14	100	110	120		n	$\cos n^\circ = (110^2 + 120^2 - 100^2)/(2 \times 110 \times 120)$	51.317813	51°	$n^\circ = 51^\circ$
15	18.8	17.2		65	p	$\sin p^\circ = (18.8\sin 65^\circ)/17.2$	82.144322	82°	$p^\circ = 82^\circ$
16	10.2	13.3		36	q	$\sin q^\circ = (10.2\sin 36^\circ)/13.3$	26.793911	26°	$q^\circ = 26^\circ$
17	68	74	74		r	$\cos r^\circ = (74^2 + 74^2 - 68^2)/(2 \times 74 \times 74)$	54.704466	54°	$r^\circ = 54^\circ$
18	25	24.5		71	s	$\sin s^\circ = (25\sin 71^\circ)/24.5$	74.756002	74°	$s^\circ = 74^\circ$
19	9	11.3	12.2		t	$\cos t^\circ = (11.3^2 + 12.2^2 - 9^2)/(2 \times 11.3 \times 12.2)$	44.833269	44°	$t^\circ = 44^\circ$
20	3.9	3.7		61	u	$\sin u^\circ = (3.9\sin 61^\circ)/3.7$	67.204924	67°	$u^\circ = 67^\circ$