Solutions for GeoWorkSheet No. 126

Solutions sheet No. 126					Mixed Trig Rule - Find an Angle 2				

Working using $a\sin A = b\sin B$ or $\cos A = \dfrac{b^2 + c^2 - a^2}{2bc}$

No.	a	b	c	A	Angle	Equation	Calculator	Degrees	Solution
1	15	10	12		a	$\cos a° = (10^2 + 12^2 - 15^2)/(2\times10\times12)$	85.459333	85°	$a° = 85°$
2	9	13		79	b	$\sin b° = (9\sin79°)/13$	42.81146	42°	$b° = 42°$
3	50	40		42	c	$\sin c° = (50\sin42°)/40$	56.763284	56°	$c° = 56°$
4	17	28		24	d	$\sin d° = (17\sin24°)/28$	14.296939	14°	$d° = 14°$
5	70	75	80		e	$\cos e° = (75^2 + 80^2 - 70^2)/(2\times75\times80)$	53.576426	53°	$e° = 53°$
6	20	24	26		f	$\cos f° = (24^2 + 26^2 - 20^2)/(2\times24\times26)$	46.945611	46°	$f° = 46°$
7	100	72	109		g	$\cos g° = (72^2 + 109^2 - 100^2)/(2\times72\times109)$	63.248958	63°	$g° = 63°$
8	37	34		54	h	$\sin h° = (37\sin54°)/34$	61.690755	61°	$h° = 61°$
9	28	22	36		i	$\cos i° = (22^2 + 36^2 - 28^2)/(2\times22\times36)$	51.039249	51°	$i° = 51°$
10	165	240		28	j	$\sin j° = (165\sin28°)/240$	18.830023	18°	$j° = 18°$
11	13.8	17.9		77	k	$\sin k° = (13.8\sin77°)/17.9$	48.693593	48°	$k° = 48°$
12	11.4	13.3	15.1		l	$\cos l° = (13.3^2 + 15.1^2 - 11.4^2)/(2\times13.3\times15.1)$	46.802972	46°	$l° = 46°$
13	5.6	7.4		57	m	$\sin m° = (5.6\sin57°)/7.4$	39.395485	39°	$m° = 39°$
14	140	190		72	n	$\sin n° = (140\sin72°)/190$	44.489495	44°	$n° = 44°$
15	7	8	9		p	$\cos p° = (8^2 + 9^2 - 8^2)/(2\times8\times9)$	48.189685	48°	$p° = 48°$
16	65	110	120		q	$\cos q° = (110^2 + 120^2 - 65^2)/(2\times110\times120)$	32.461745	32°	$q° = 32°$
17	60	75		73	r	$\sin r° = (60\sin73°)/75$	49.910889	49°	$r° = 49°$
18	30	20	25		s	$\cos s° = (20^2 + 25^2 - 30^2)/(2\times20\times25)$	82.819244	82°	$s° = 82°$
19	9	11.4		72	t	$\sin t° = (9\sin72°)/11.4$	48.662681	48°	$t° = 48°$
20	7.2	5.2	7.1		u	$\cos u° = (5.2^2 + 7.1^2 - 7.2^2)/(2\times5.2\times7.1)$	69.706394	69°	$u° = 69°$