

One-Page Nautical Almanac: 2021

Star	SHA	Dec	Calculate GHA Star
Aldebaran	290° 43.2'	N 16° 33.0'	Convert today's date into day-of-year using the knuckle method.
Alkaid	152° 54.2'	N 49° 12.7'	Aries on Day 0 of 2021 = 99° 52.7'
Alphard	217° 50.8'	S 8° 45.1'	+ days x 59.139' per day = ° ' ,
Altair	62° 02.4'	N 8° 55.5'	+ hours x 15.041° per hour = ° ' ,
Antares	112° 19.0'	S 26° 28.7'	+ minutes x 15.041' per minute = ° ' ,
Arcturus	145° 50.4'	N 19° 04.5'	+ seconds x 0.2507' per second = ° ' ,
Betelgeuse	270° 55.5'	N 7° 24.6'	GHA Aries at time of sight = ° ' ,
Capella	280° 26.6'	N 46° 01.0'	+ SHA of star = ° ' ,
Deneb	49° 27.3'	N 45° 21.3'	GHA of star at time of sight = ° ' ,
Diphda	348° 50.2'	S 17° 52.1'	
Dubhe	193° 44.9'	N 61° 38.5'	Calculate Dip
Fomalhaut	15° 17.6'	S 29° 30.4'	$0.97 \times \sqrt{h} = \text{Dip}$ $1.76 \times \sqrt{h} = \text{Dip}$ where h is in feet where h is in meters
Markab	13° 32.6'	N 15° 19.1'	Calculate Altitude Correction for Stars
Pollux	243° 21.2'	N 27° 58.5'	$1 \div \tan((Ha + (7.31 \div (Ha + 4.4)))) = \text{Corr}^n$
Procyon	244° 54.2'	N 5° 10.2'	If you are willing to give up some accuracy, you can use these altitude corrections:
Rasalhague	96° 00.9'	N 12° 32.8'	0' where Ha > 63°
Regulus	207° 37.7'	N 11° 51.9'	1' where Ha > 33°
Rigel	281° 07.0'	S 8° 10.6'	2' where Ha > 21°
Sirius	258° 29.1'	S 16° 44.7'	3' where Ha > 16°
Spica	158° 25.3'	S 11° 16.3'	4' where Ha > 12°
Vega	80° 34.7'	N 38° 48.2'	5' where Ha > 10°

Examples

Calculate the GHA of Vega for March 8 at 14:58:36 GMT

Aries on Day 0 of 2021	=	99° 52.7'
67 days x 59.139' per day	=	66° 02.3'
14 hours x 15.041° per hour	=	210° 34.4'
58 minutes x 15.041' per minute	=	14° 32.4'
36 seconds x 0.2507' per second	=	0° 09.0'
		391° 10.8'
for any angle over 360°	-	360° 00.0'
GHA ☉ at 2021/03/08, 14:58:36		31° 10.8'
SHA Vega	+	80° 34.7'
GHA Vega		111° 45.5'

Calculate the dip for an eye-height of 2 meters. Enter this equation into your Casio fx-300:

1 · 7 6 X √ 2) =

Calculate the altitude correction for Ha of 30° 10'. Enter this equation into your Casio fx-300:

1 ÷ tan ^{TAN⁻¹ F} (3 0 ° " 1 0 " + (7 · 3 1 ÷
(3 0 " 1 0 " + 4 · 4))) =