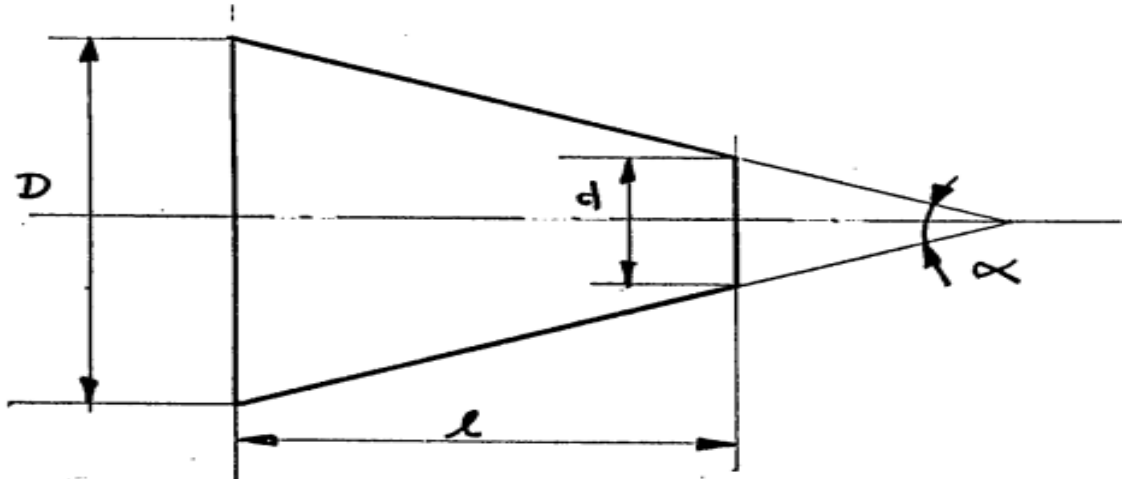# MECANIZADO DE CONOS EN EL TORNO

CONICIDAD

Los conos son cuerpos de revolución cuyas generatrices se cortan en un punto. En los talleres es común llamar también conos a los troncos de cono.

D= diámetro mayor del cono
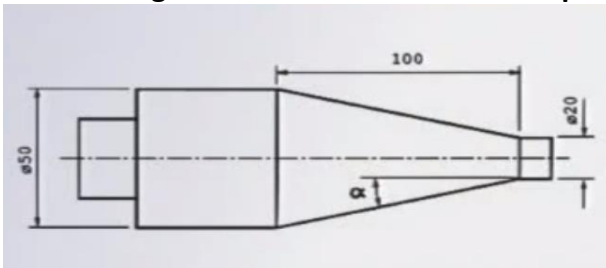**d= diámetro menor del cono**
L= longitud del cono
∞= conicidad
Tan ∞/2= inclinación del carro superior en grados

$$\text{Tan } \infty/2 = \frac{D - d}{2(L)}$$

EJEMPLO:
El siguiente plano muestra las medidas para realizar un cono, en el cual debemos hallar el angulo de inclinación del carro superior.

$$\text{Tan } \infty/2 = \frac{D - d}{2(L)} = \frac{50mm - 20mm}{2\,(100mm)} = \frac{30mm}{200mm} = 0,15$$

Después de hallar ese resultado (0,15) buscamos en la tabla de tangente que esta al final, el valor que se aproxima al decimal hallado (0,15) que en este caso es:
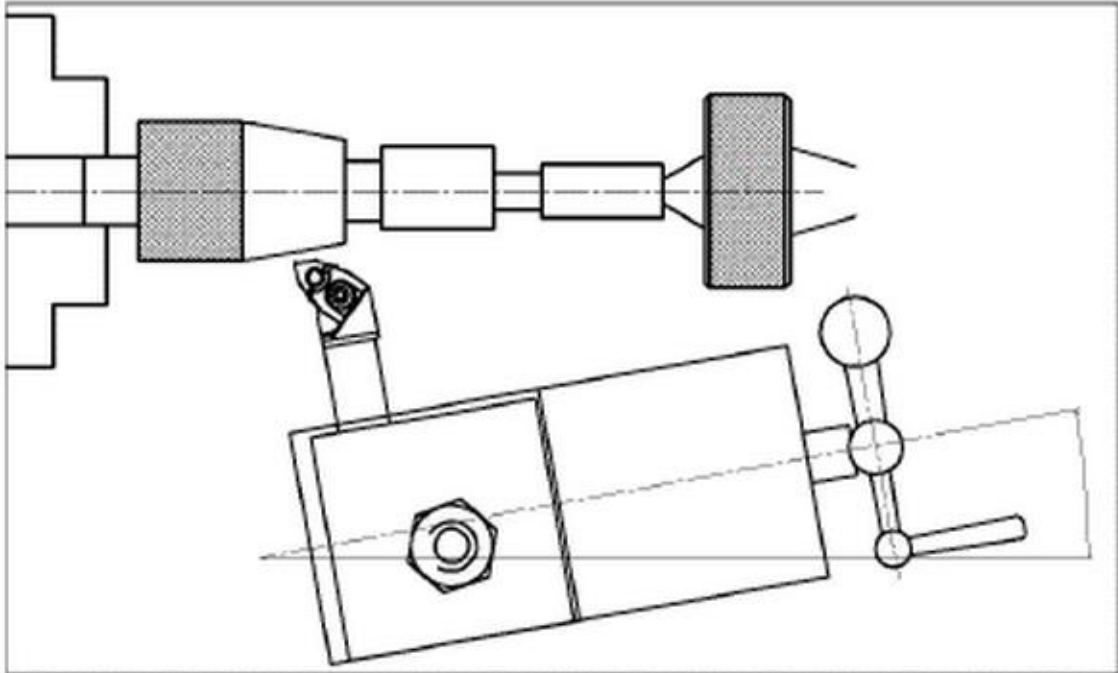Tg (8°) = 0.14054

O hallamos en la calculadora científica la inversa presionando **SHIFT** + [tan⁻¹] + la

tecla [....] , y obtendrás el valor en grados de la inclinación de carro superior

Tan ∞/2= 8º 30'

Tabla de tangentes de los ángulos desde 1º hasta 180º

tg(1°) = 0.01746	tg(61°) = 1.80405	tg(121°) = -1.66428
tg(2°) = 0.03492	tg(62°) = 1.88073	tg(122°) = -1.60033
tg(3°) = 0.05241	tg(63°) = 1.96261	tg(123°) = -1.53986
tg(4°) = 0.06993	tg(64°) = 2.0503	tg(124°) = -1.48256
tg(5°) = 0.08749	tg(65°) = 2.14451	tg(125°) = -1.42815
tg(6°) = 0.1051	tg(66°) = 2.24604	tg(126°) = -1.37638
tg(7°) = 0.12278	tg(67°) = 2.35585	tg(127°) = -1.32704
tg(8°) = 0.14054	tg(68°) = 2.47509	tg(128°) = -1.27994
tg(9°) = 0.15838	tg(69°) = 2.60509	tg(129°) = -1.2349
tg(10°) = 0.17633	tg(70°) = 2.74748	tg(130°) = -1.19175
tg(11°) = 0.19438	tg(71°) = 2.90421	tg(131°) = -1.15037
tg(12°) = 0.21256	tg(72°) = 3.07768	tg(132°) = -1.11061
tg(13°) = 0.23087	tg(73°) = 3.27085	tg(133°) = -1.07237
tg(14°) = 0.24933	tg(74°) = 3.48741	tg(134°) = -1.03553
tg(15°) = 0.26795	tg(75°) = 3.73205	tg(135°) = -1
tg(16°) = 0.28675	tg(76°) = 4.01078	tg(136°) = -0.96569
tg(17°) = 0.30573	tg(77°) = 4.33148	tg(137°) = -0.93252
tg(18°) = 0.32492	tg(78°) = 4.70463	tg(138°) = -0.9004
tg(19°) = 0.34433	tg(79°) = 5.14455	tg(139°) = -0.86929
tg(20°) = 0.36397	tg(80°) = 5.67128	tg(140°) = -0.8391
tg(21°) = 0.38386	tg(81°) = 6.31375	tg(141°) = -0.80978
tg(22°) = 0.40403	tg(82°) = 7.11537	tg(142°) = -0.78129
tg(23°) = 0.42447	tg(83°) = 8.14435	tg(143°) = -0.75355
tg(24°) = 0.44523	tg(84°) = 9.51436	tg(144°) = -0.72654
tg(25°) = 0.46631	tg(85°) = 11.43005	tg(145°) = -0.70021
tg(26°) = 0.48773	tg(86°) = 14.30067	tg(146°) = -0.67451
tg(27°) = 0.50953	tg(87°) = 19.08114	tg(147°) = -0.64941
tg(28°) = 0.53171	tg(88°) = 28.63625	tg(148°) = -0.62487
tg(29°) = 0.55431	tg(89°) = 57.28996	tg(149°) = -0.60086
tg(30°) = 0.57735	tg(90°) = ∞	tg(150°) = -0.57735
tg(31°) = 0.60086	tg(91°) = -57.28996	tg(151°) = -0.55431
tg(32°) = 0.62487	tg(92°) = -28.63625	tg(152°) = -0.53171
tg(33°) = 0.64941	tg(93°) = -19.08114	tg(153°) = -0.50953
tg(34°) = 0.67451	tg(94°) = -14.30067	tg(154°) = -0.48773
tg(35°) = 0.70021	tg(95°) = -11.43005	tg(155°) = -0.46631
tg(36°) = 0.72654	tg(96°) = -9.51436	tg(156°) = -0.44523
tg(37°) = 0.75355	tg(97°) = -8.14435	tg(157°) = -0.42447
tg(38°) = 0.78129	tg(98°) = -7.11537	tg(158°) = -0.40403
tg(39°) = 0.80978	tg(99°) = -6.31375	tg(159°) = -0.38386
tg(40°) = 0.8391	tg(100°) = -5.67128	tg(160°) = -0.36397
tg(41°) = 0.86929	tg(101°) = -5.14455	tg(161°) = -0.34433
tg(42°) = 0.9004	tg(102°) = -4.70463	tg(162°) = -0.32492
tg(43°) = 0.93252	tg(103°) = -4.33148	tg(163°) = -0.30573
tg(44°) = 0.96569	tg(104°) = -4.01078	tg(164°) = -0.28675
tg(45°) = 1	tg(105°) = -3.73205	tg(165°) = -0.26795
tg(46°) = 1.03553	tg(106°) = -3.48741	tg(166°) = -0.24933
tg(47°) = 1.07237	tg(107°) = -3.27085	tg(167°) = -0.23087
tg(48°) = 1.11061	tg(108°) = -3.07768	tg(168°) = -0.21256
tg(49°) = 1.15037	tg(109°) = -2.90421	tg(169°) = -0.19438
tg(50°) = 1.19175	tg(110°) = -2.74748	tg(170°) = -0.17633
tg(51°) = 1.2349	tg(111°) = -2.60509	tg(171°) = -0.15838
tg(52°) = 1.27994	tg(112°) = -2.47509	tg(172°) = -0.14054
tg(53°) = 1.32704	tg(113°) = -2.35585	tg(173°) = -0.12278
tg(54°) = 1.37638	tg(114°) = -2.24604	tg(174°) = -0.1051
tg(55°) = 1.42815	tg(115°) = -2.14451	tg(175°) = -0.08749
tg(56°) = 1.48256	tg(116°) = -2.0503	tg(176°) = -0.06993
tg(57°) = 1.53986	tg(117°) = -1.96261	tg(177°) = -0.05241
tg(58°) = 1.60033	tg(118°) = -1.88073	tg(178°) = -0.03492
tg(59°) = 1.66428	tg(119°) = -1.80405	tg(179°) = -0.01746
tg(60°) = 1.73205	tg(120°) = -1.73205	tg(180°) = 0

Luego procedemos a inclinar el charriot 8 grados y 30' como se muestra en la imagen.

Dios les bendiga
SENA 24 horas