Geometry | Thursday 1-3-13 | Class Notes

Ch 12-1 Lines that Intersect Circles

PS 792 Obj: G.26

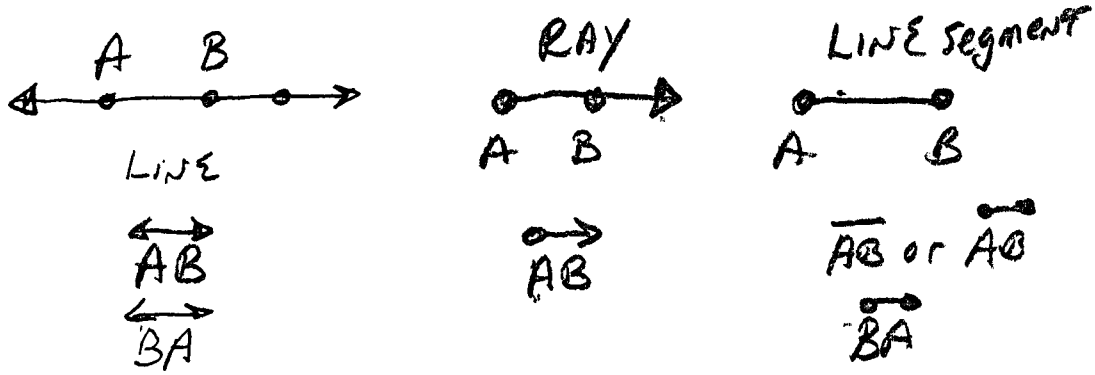
Vocabulary:
- Secant
  - Chord
- Tangent
  - Point of tangency

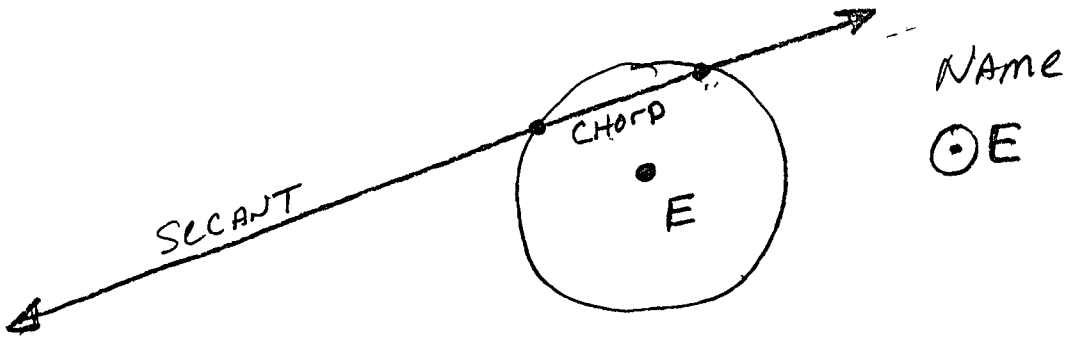
Congruent ⊙

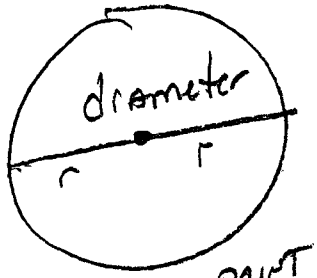
Concentric ⊙

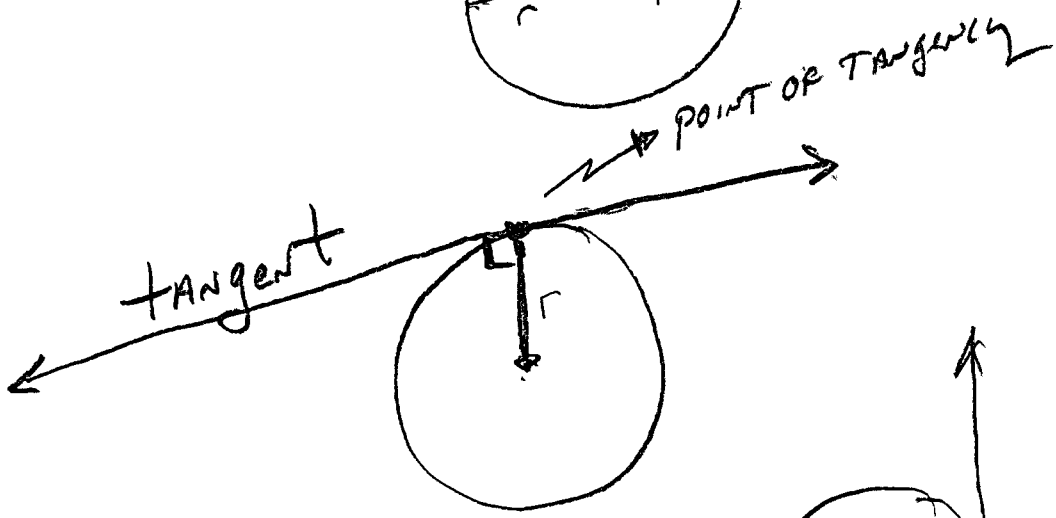
Tangent Circles
- Internally tangent
- Externally tangent

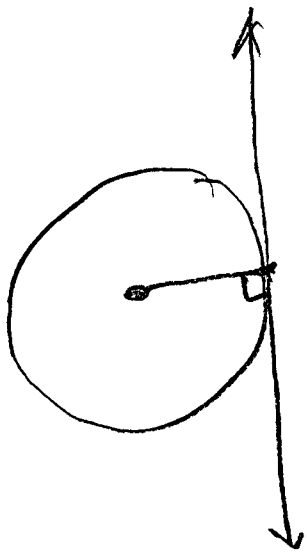
Common Tangent (to two circles)

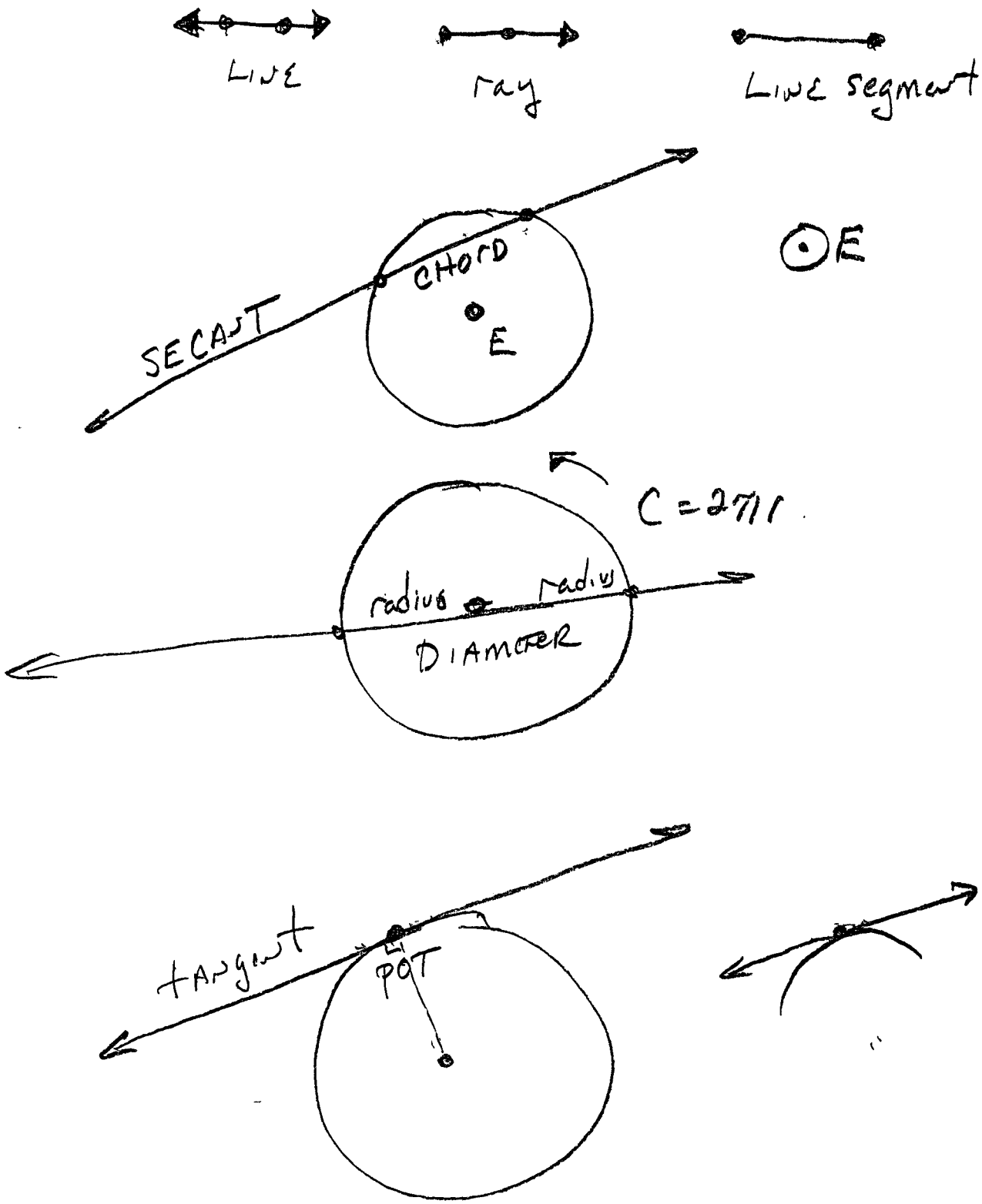

A B
LINE
$\overleftrightarrow{AB}$
$\overleftrightarrow{BA}$
RAY
A B
$\overrightarrow{AB}$
LINE segment
A B
$\overline{AB}$ or $\overline{AB}$
$\overline{BA}$


SECANT
CHORD
E
NAME
⊙E


diameter
r
r


POINT OF TANGENCY
TANGENT
r




LINE
ray
LINE segment
SECANT
CHORD
E
E
C = 2πr
radius
radius
DIAMETER
tangent
POT

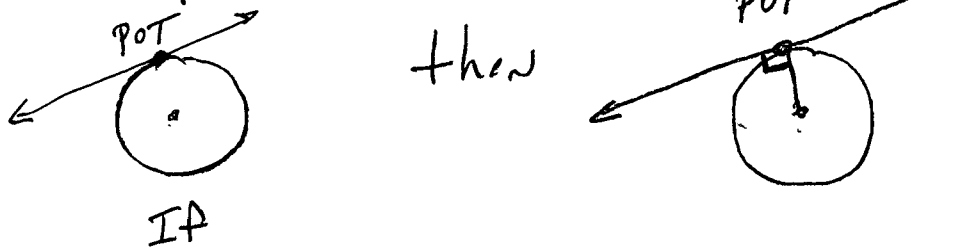
Tangent to Circle – Radius Theorem

Pg 794 ⇒ Th. 12-1-1, 12-1-2

If line is tan to ⊙, then it is ⊥ to radius drawn to POT

≡ or

if a line is ⊥ to radius of circle at a point on circle, it is tan

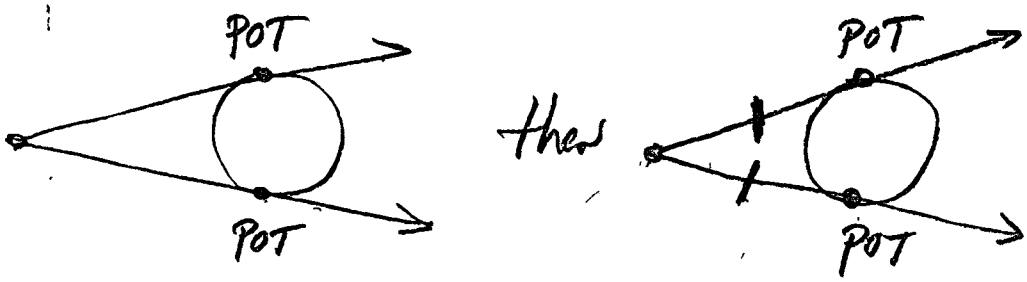


If

Two Tangents to ⊙ Theorem

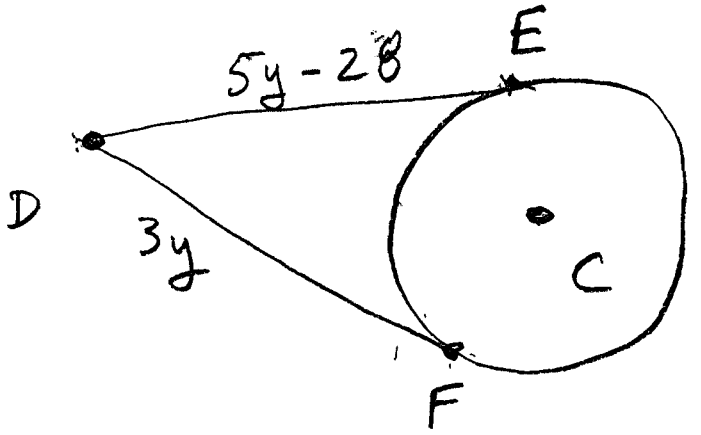
Pg 795 Th. 12-1-3

If 2 line segments are tangent to a circle from same external point, the 2 line segments are ≅



If

(Ex 4)
Pg 796



$\overline{DE}, \overline{DF}$ tangents

FIND $\overline{DF}$

$5y - 28 = 3y$

$-3y \quad +28 \qquad -3y \quad +28$

$\frac{2y}{2} = \frac{28}{2}$

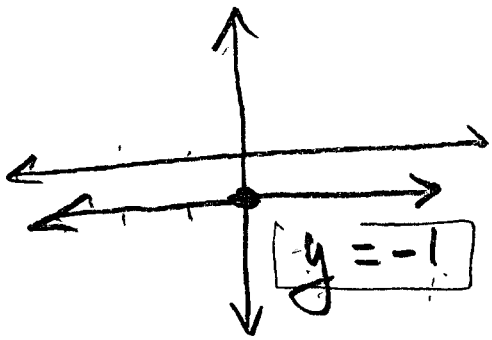
$y = 14$ ∴ DF = $3(14) = 42$

HW: 797 # 1 to 10

$m = 0$

horz lines

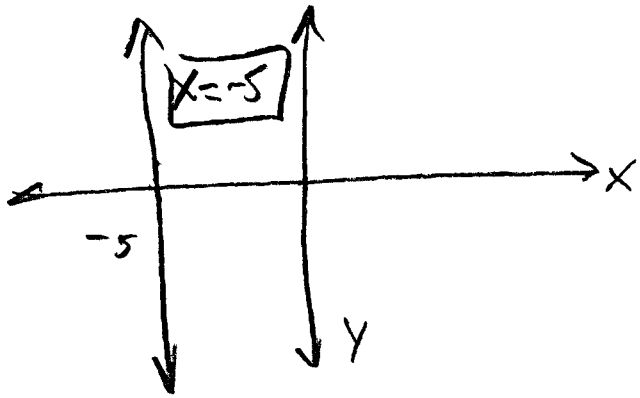
$y =$ CONSTANT

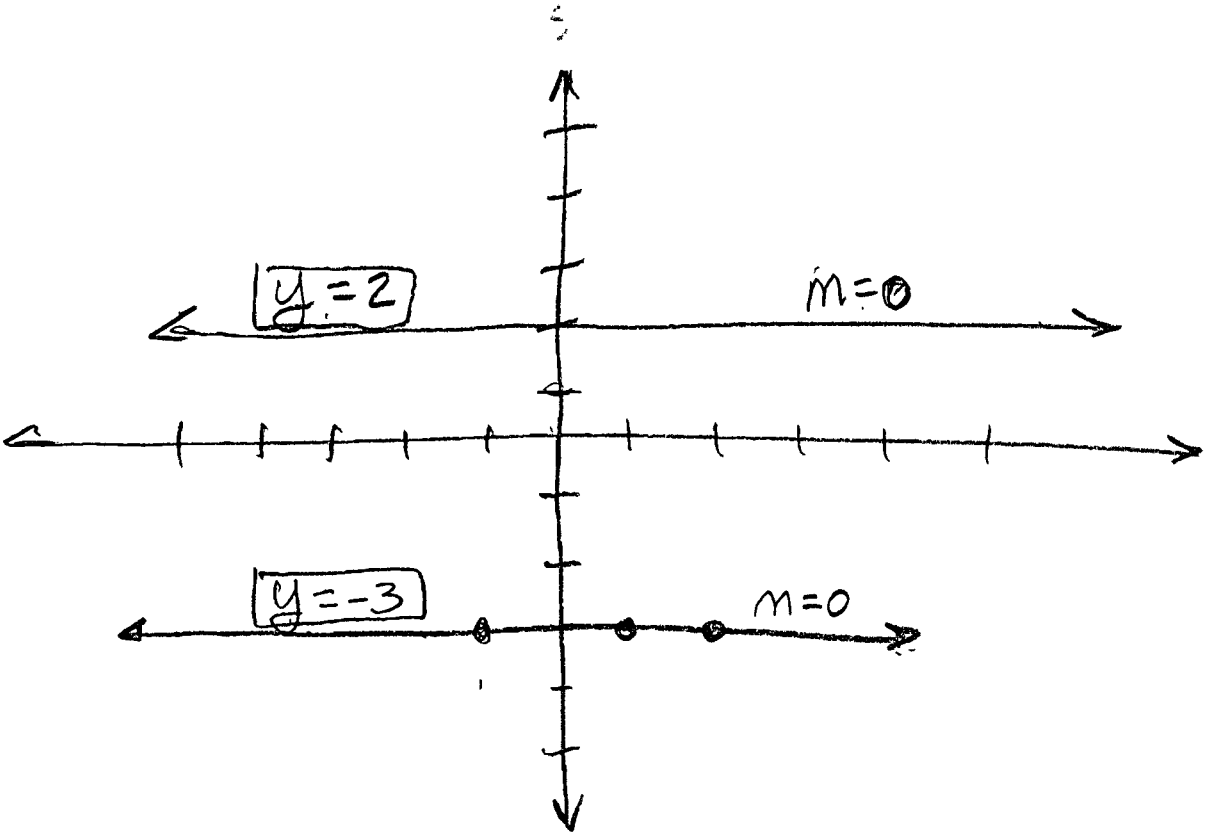


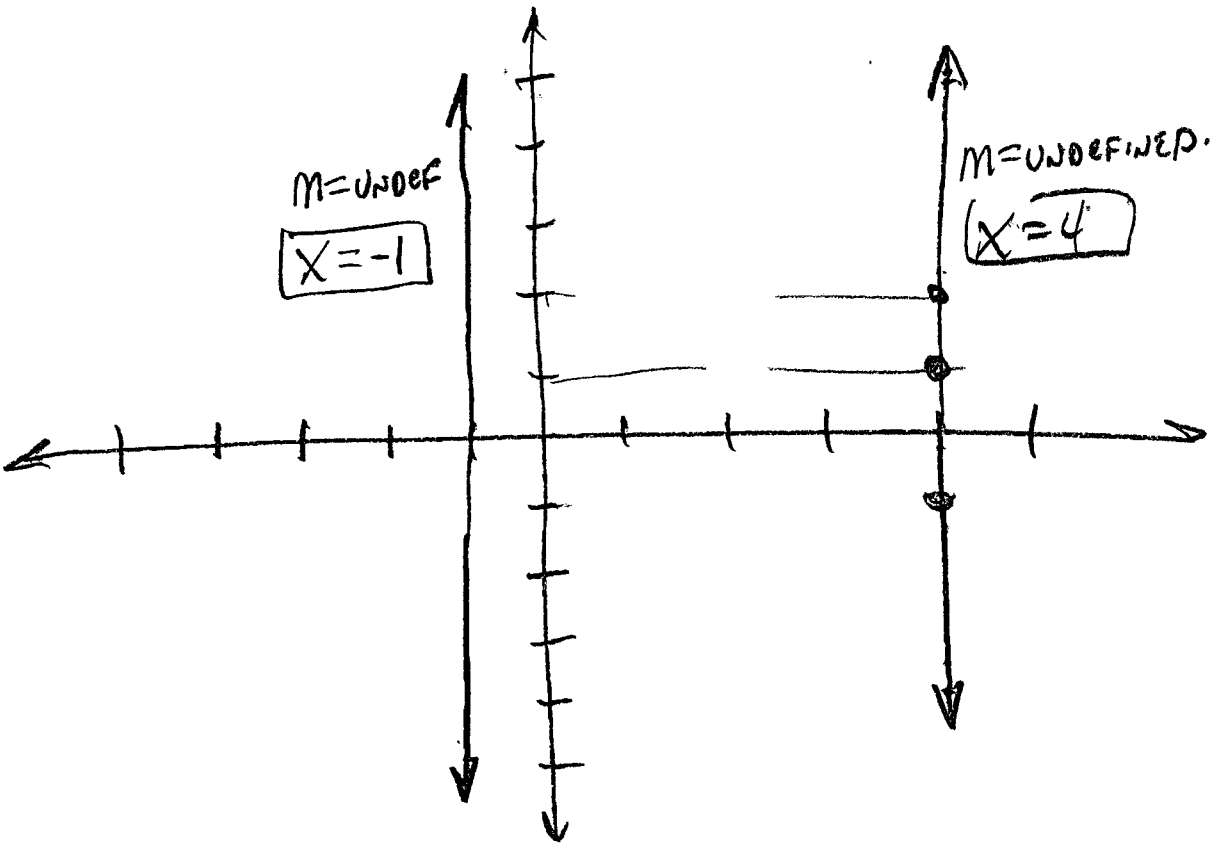
$m =$ UNDEFINED

VERT LINES

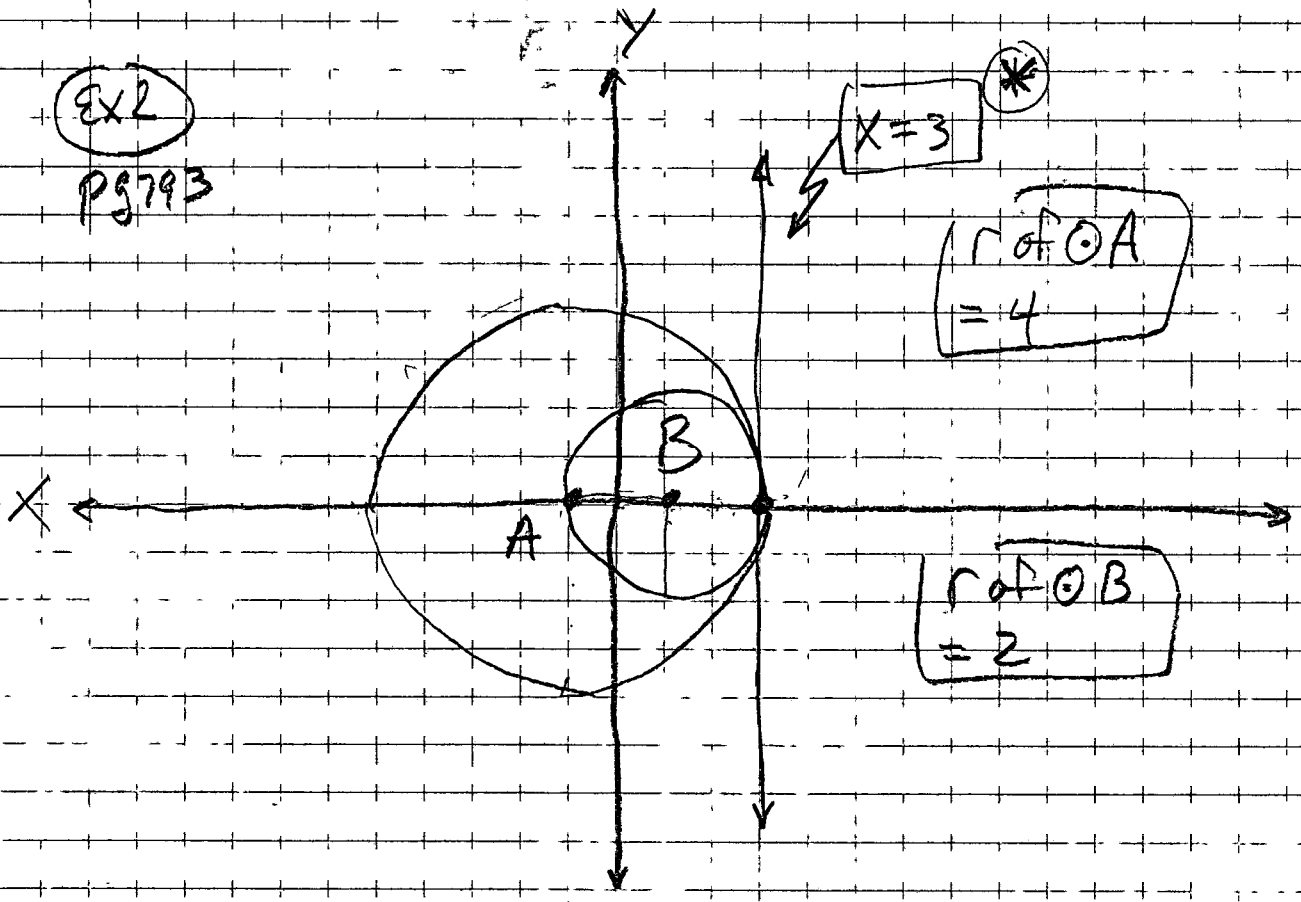
$X =$ CONSTANT



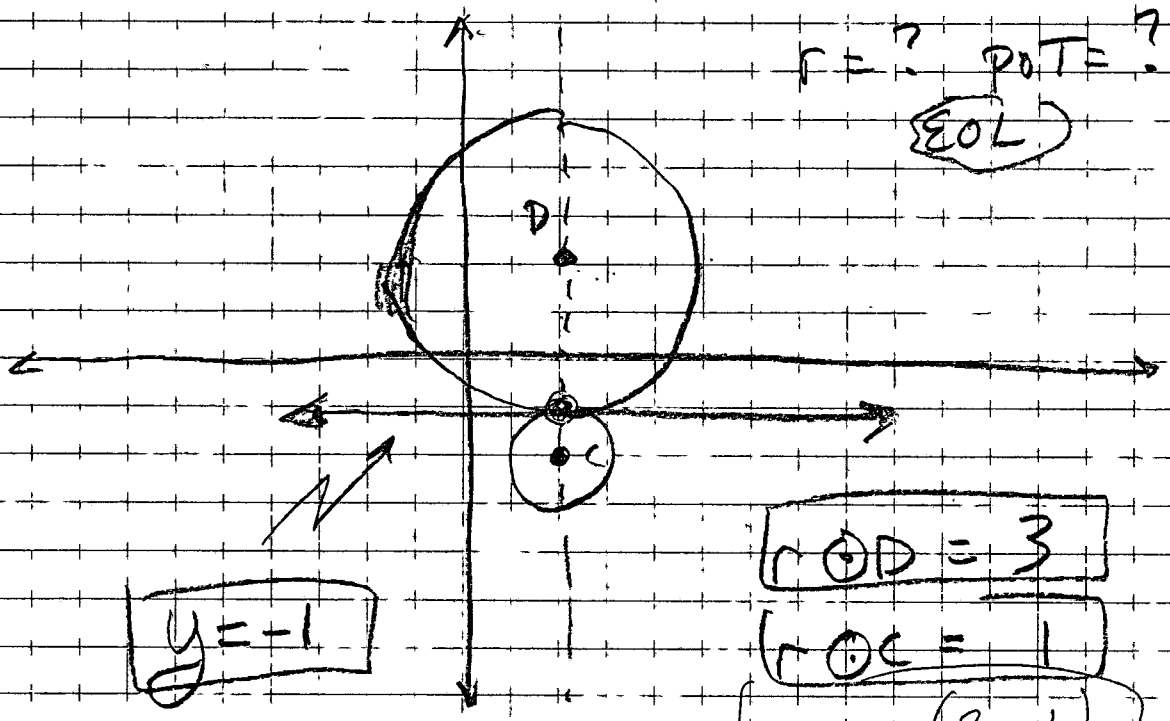

y = 2
m = 0
y = -3
m = 0


m = UNDEF
x = -1
m = UNDEFINED.
x = 4

Ex2
Pg793



r = ? POT = ?
EOL



y = -1

r ⊙D = 3
r ⊙C = 1
POT = (2, -1)