9.

$$f(x) = \begin{cases} -3x & , x \leq 1 \\ x^2 - 4x + 7 & , x > 1 \end{cases}$$

$-3x$	$x^2 - 4x + 7$
$-3(1)$	$1^2 - 4(1) + 7$
-3	4

DISC AT $x = 1$

① $f'(x) = \begin{cases} -3 & , x < \boxed{1} \\ 2x - 4 & , x > \boxed{1} \end{cases}$

②

$x = 1$

$2x - 4 = 0$
$2x = 4$
$x = 2$

T.C.

PLUGINTO
DERIV.

```
  -∞            X=1                          X=2              ∞
───┬─────────────┬─────────────────────────────┬─────────────┬───
   |   X = 0     |        X = 3/2              |    X = 3     |
   |    -3       |        2x - 4              |    2x - 4     |
   |      ＼     |        2(3/2) - 4          |    2(3) - 4   |
   |             |        3 - 4               |    6 - 4      |
   |             |          ＼                |      2  ／    |
```

DEC $(-\infty, 1)$
DEC $(1, 2)$
INC $(2, \infty)$