Geometry HW 2-2 Ans

① $\angle 1$ & $\angle 3$ lin pair so supp

$m\angle 3 = 180 - 123 = 57°$

$m\angle 7 = m\angle 3$ (Both 57°)

$\angle 7$ + $\angle 3$ are = corr $\angle$s so lines are ||

② cannot determine any of $m\angle 5$, $m\angle 6$, $m\angle 7$, $m\angle 8$ so lines cannot be proven ||

③ $\angle 1$ & $\angle 3$ lin pair (supp)

$10x + 25 + 6x + 19 = 180$

$16x + 44 = 180$

$16x = 136$

$x = 8.5$

Test $m\angle 1 = m\angle 5$ (corr $\angle$s)

$m\angle 1 = 10(8.5) + 25 = 110°$

$m\angle 5 = 12(8.5) + 3 = 105°$

$m\angle 1 \neq m\angle 5$, since corr $\angle$s $\neq$ lines are not ||

④ $\angle 1$ & $\angle 5$ are corr $\angle$s so =

$\angle 5$, $\angle 7$ are lin pair so supp

$5x + 30 + 6x + 7 = 180$

$11x + 37 = 180$

$11x = 143$

$x = 13$

$m\angle 4 = m\angle 1$ (vert $\angle$s =)

$5(13) + 30 = 95° = m\angle 4$

⑤ $\angle BAC$, $\angle DEC$ are alt int $\angle$s so =

$8x - 8 = 7x + 2$

$x = 10$

$\angle CDE$, $\angle ABC$ are alt int $\angle$s so =

$6(10) + 5 = 65° = m\angle CDE$

(6) $m\angle ABC = 2 \cdot m\angle DBC$ b/c The bisector splits an angle in 1/2

$9x+17 = 2\cdot(6x+1)$

$9x+17 = 12x+2$

$15 = 3x$

$x=5$

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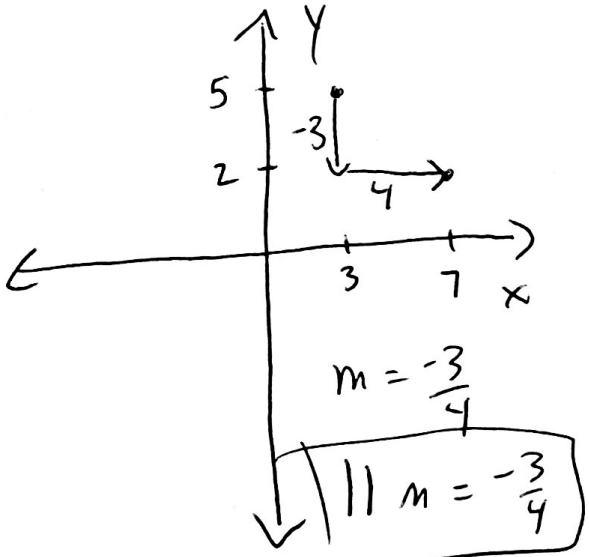
(7)



$m = \frac{-3}{4}$

$\| m = -\frac{3}{4}$

(2,1)

$y = mx+b$

$1 = -\frac{3}{4}(2)+b$

$1 = -\frac{3}{2}+b$

$\frac{5}{2} = b$

$y = -\frac{3}{4}x + \frac{5}{2}$

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(8) midpoint is average of x & y

$2x+1+4x-1 = 6x/2 = 3x \to x$

$4y+2+6y-4 = \frac{10y-2}{2} = 5y-1 \to y$

$(3x, 5y-1)$