

HW 6E # 2beh, 6F # 1cf, 2be, 4beh

2b.)  $y = x^2 + 4x - 5$   
 $(0, -5)$

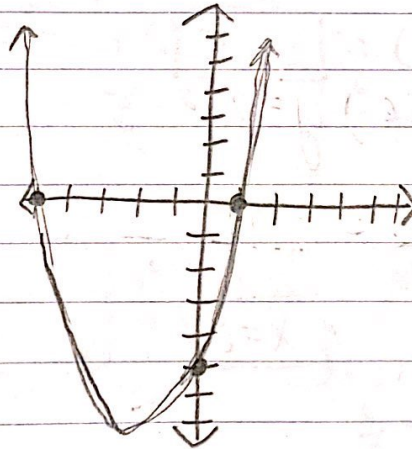
$0 = x^2 + 4x - 5$

$(x+5)(x-1) = 0$

$x = -5, x = 1$

$(-5, 0), (1, 0)$

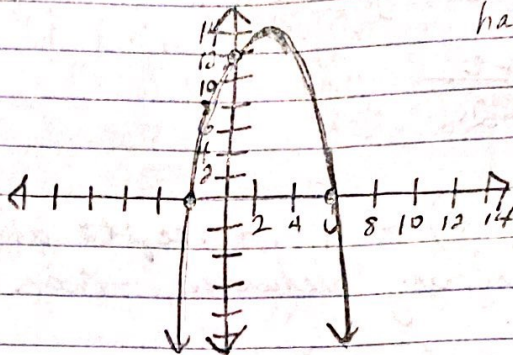
halfway  $\Rightarrow \frac{-5+1}{2} = \frac{-4}{2} = -2$



2e.)  $y = -x^2 + 4x + 12$

$(0, 12)$   
 $(-x^2 + 6x)(-2x + 12) = 0$   
 $-x(x-6) - 2(x-6) = 0$   
 $(-x-2)(x-6) = 0$

$-x-2=0$      $x-6=0$   
 $-x=2$        $x=6$   
 $x=-2$

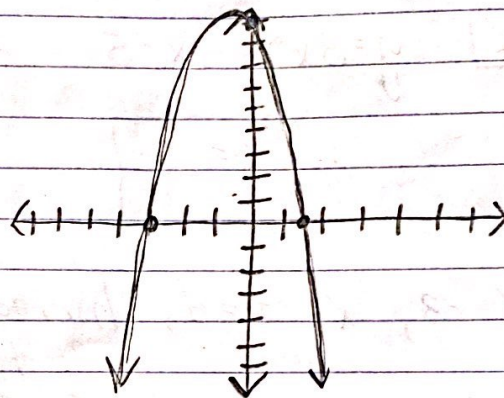


halfway  $\frac{-2+6}{2} = \frac{4}{2} = 2$

2h.)  $y = -2x^2 - 3x + 9$

$(0, 9)$   
 $(-2x^2 - 6x)(3x + 9) = 0$   
 $-2x(x+3) + 3(x+3) = 0$   
 $(-2x+3)(x+3) = 0$

$-2x+3=0$        $x+3=0$   
 $-2x=-3$        $x=-3$   
 $x = \frac{3}{2} = 1\frac{1}{2}$



6E) 1c.) x-intercepts are  $-1 \neq 3$

$\therefore$  halfway between is  $\frac{-1+3}{2} = \frac{2}{2} = 1 \therefore \boxed{x=1}$

1f.) touching x-axis @  $-4$

$\therefore \boxed{x=-4}$

2b.)  $y = x(x+4) \therefore$  x-intercepts are  $0 \neq -4$

halfway between is  $\frac{0-4}{2} = \frac{-4}{2} = -2 \therefore \boxed{x=-2}$

2e.)  $y = 2(x-5)^2$

vertex =  $(5, 0) \therefore \boxed{x=5}$

4b.)  $y = x^2 - 8x - 1$

4e.)  $y = 2x^2 - 5$

4h.)  $y = 10x - 3x^2$

$\frac{-b}{2a} = \frac{-(-8)}{2(1)} = \frac{8}{2} = 4$

$\therefore \boxed{x=4}$

$\frac{-b}{2a} = \frac{-(0)}{2(2)} = \frac{0}{4} = 0$

$\therefore \boxed{x=0}$

$\frac{-b}{2a} = \frac{-(10)}{2(-3)} = \frac{-10}{-6} = \frac{5}{3}$

$\therefore \boxed{\frac{x=5}{3}}$