مدارس الكلية العلمية الإسلامية

جبل عمان - الجبيهه

صحيفة الأعمال (1)

المتباينات المركبة و متباينات القيمة المطلقة

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الصف والشعبة	التاسع ( )
المدرسة	

السنة الدراسية	2023/2022
الفصل الدراسي	الأول

المعلم/ سعود الهنداوي

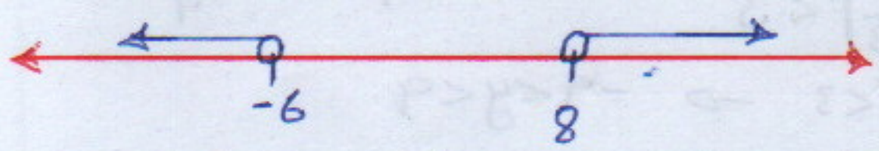
الاجابة النموذجية

السؤال الأول : أجد مجموعة حل كل متباينة ممايأتي ، ثم أمثلها على خط الأعداد ، و أعبر عنها برمز الفترة ؟

1) $x - 2 < -8$ or $\frac{x}{8} > 1$

$+2 \quad +2$

$\rightarrow x < -6$ or $x > 8$



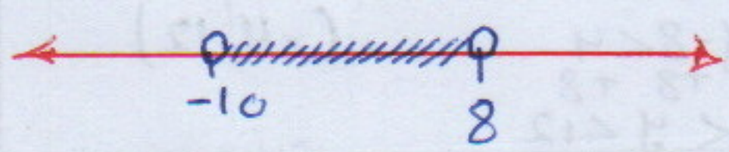
$(-\infty, -6) \cup (8, \infty)$

2) $-1 < 9 + m < 17$

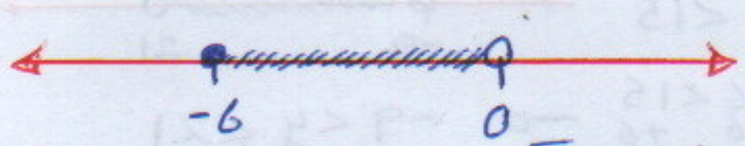
$-9 \quad -9 \quad -9$

$\rightarrow -10 < m < 8$

$(-10, 8)$



3) $-3 \leq \frac{x}{2} < 0$ $\rightarrow -6 \leq x < 0$



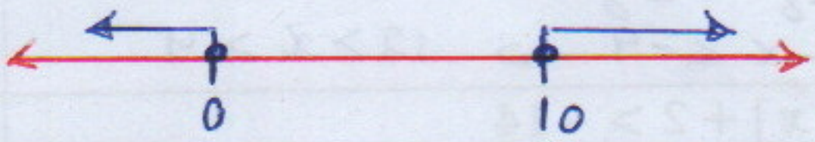
$[-6, 0)$

4) $7y - 5 \geq 65$ or $-3y - 2 \geq -2$

$+5 \quad +5 \qquad +2 \quad +2$

$\rightarrow 7y \geq 70$ or $-3y \geq 0$

$\rightarrow y \geq 10 \quad \rightarrow y \leq 0$



5) $-36 < 3p - 6 < -15$

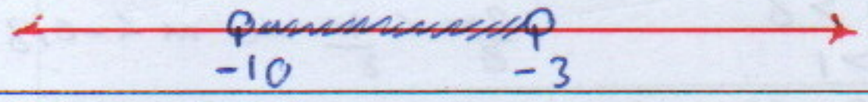
$+6 \quad +6 \quad +6$

$\rightarrow -30 < 3p < -9$

$\frac{-30}{3} \quad \frac{3p}{3} \quad \frac{-9}{3}$

$\rightarrow -10 < p < -3$

$(-10, -3)$

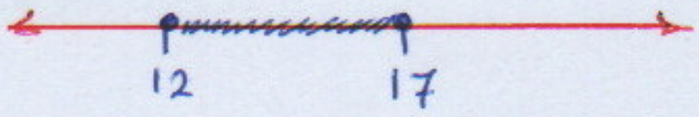


6) $6 \leq x - 6 \leq 11$

$+6 \quad +6 \quad +6$

$\rightarrow 12 \leq x \leq 17$

$[12, 17]$

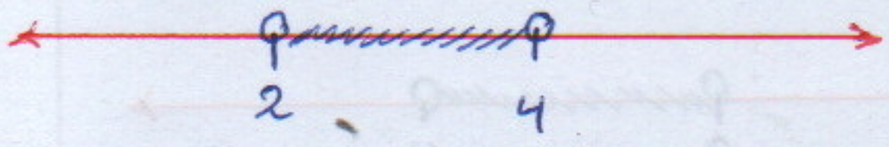


7) $-3 < m - 5 < -1$

$+5 \quad +5 \quad +5$

$\rightarrow 2 < m < 4$

$(2, 4)$



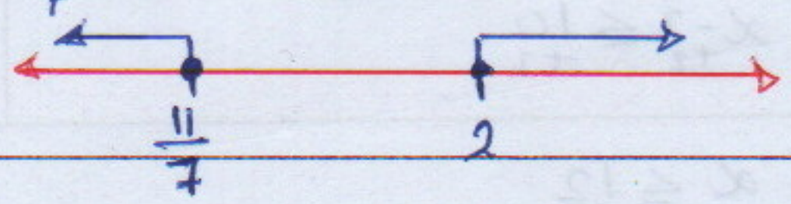
8) $-33 \leq -7n - 12 \leq -26$

$+12 \quad +12 \quad +12$

$\rightarrow -11 \leq -7n \leq -14$

$\frac{-11}{-7} \quad \frac{-7n}{-7} \quad \frac{-14}{-7}$

$\frac{11}{7} \geq n \geq 2$

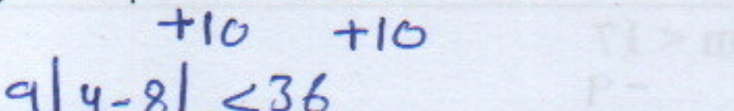


$(-\infty, \frac{11}{7}] \cup [2, \infty)$

8) $|6y| \le 8$

$\rightarrow \quad -\frac{8}{6} \le \frac{6y}{6} \le \frac{8}{6}$

$\rightarrow \quad -\frac{4}{3} \le y \le \frac{4}{3}$ $\quad [-\frac{4}{3}, \frac{4}{3}]$



9) $|x-4|-3<5$

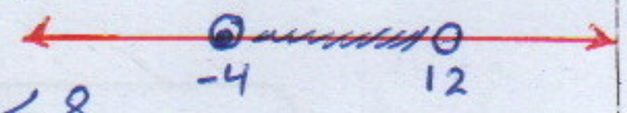
$+3 \quad +3$

$\rightarrow |x-4|<8$

$\rightarrow -8<x-4<8$

$+4 \quad +4 \quad +4$

$\rightarrow -4<x<12$



$(-4, 12)$

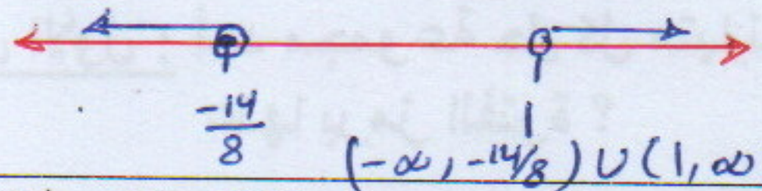
10) $|-8x-3|>11$

$\rightarrow -8x-3>11$ $\quad$ or $\quad -8x-3<-11$

$+3 \quad +3 \qquad +3 \quad +3$

$\frac{-8x}{-8} > \frac{14}{-8} \qquad \frac{-8x}{-8} < \frac{-8}{-8}$

$x > -\frac{14}{8} \qquad x > 1$

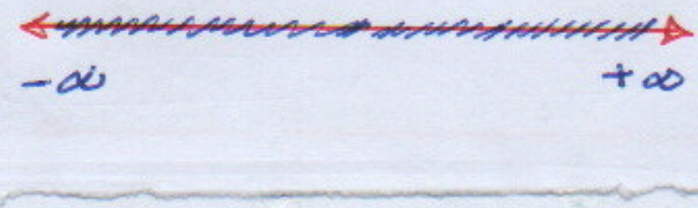


$(-\infty, -14/8) \cup (1, \infty)$

11) $|1-4m| \ge -11$

العبارة صحيحة

$(-\infty, \infty)$



12) $9|y-8|-10<26$

$+10 \quad +10$

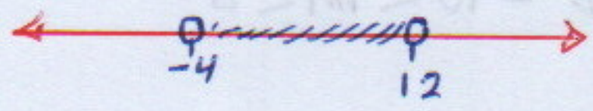
$\rightarrow \frac{9}{9}|y-8| < \frac{36}{9}$

$\rightarrow |y-8|<4$

$\rightarrow -4<y-8<4$

$+8 \quad +8 \quad +8$

$\rightarrow -4<y<12$



$(-4, 12)$

13) $7\left|\frac{y}{3}\right|-9<12$

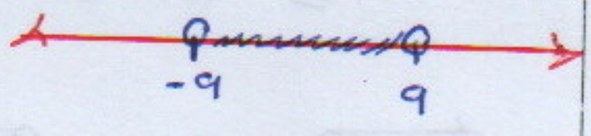
$+9 \quad +9$

$\rightarrow \frac{7}{7}\left|\frac{y}{3}\right| < \frac{21}{7}$

$\rightarrow \left|\frac{y}{3}\right|<3$

$-3<\frac{y}{3}<3 \rightarrow -9<y<9$

$(-9, 9)$



14) $-4|8-x|+2>-14$

$-2 \quad -2$

$\rightarrow \frac{-4}{-4}|8-x| > \frac{-16}{-4}$

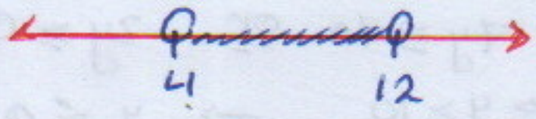
$\rightarrow |8-x|<4$

$\rightarrow -4<8-x<4$

$-8 \quad -8 \quad -8$

$-12<-x<-4 \rightarrow 12>x>4$

$(4, 12)$



15) $9-|y-6|>-6$

$-9 \quad -9$

$\rightarrow \frac{-}{-1}|y-6| > \frac{-15}{-1}$

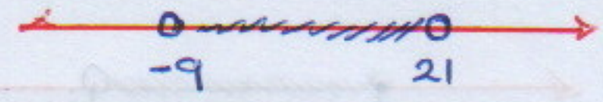
$|y-6|<15$

$-15<y-6<15$

$+6 \quad +6 \quad +6$

$\rightarrow -9<y<21$

$(-9, 21)$



16) $-4|8-x|+2>-14$

مكرر

17) $9|1+8m|-3 \ge 78$

$+3 \quad +3$

$\rightarrow \frac{9}{9}|1+8m| > \frac{81}{9}$

$\rightarrow |1+8m|>9$

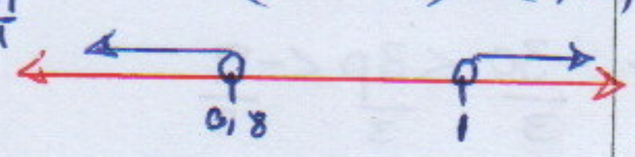
$\rightarrow 1+8m>9$ $\quad$ or $\quad 1+8m<-9$

$-1 \quad -1 \qquad -1 \quad -1$

$8m>8 \qquad \frac{8m}{8} < \frac{-10}{8} \rightarrow m<-0,8$

$m>1$

$(-\infty, -0,8) \cup (1, \infty)$



19) $-|x-2|+8 \ge -2$

$-8 \quad -8$

$\rightarrow \frac{-}{-1}|x-2| \ge \frac{-10}{-1}$

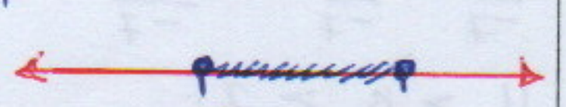
$\rightarrow |x-2| \le 10$

$-10 \le x-2 \le 10$

$+2 \quad +2 \quad +2$

$-8 \le x \le 12$

$(-8, 12)$



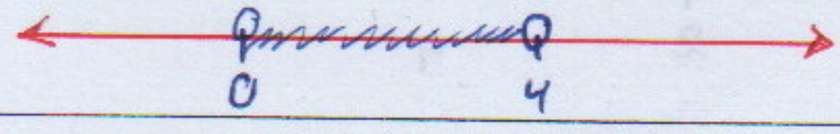
20) $3y-2<10$ or $2y-4>-4$

$+2 \quad +2 \qquad +4 \quad +4$

$\frac{3y}{3} < \frac{12}{3} \qquad \frac{2y}{2} > \frac{0}{2}$

$y<4 \qquad y>0$

$(0, 4)$

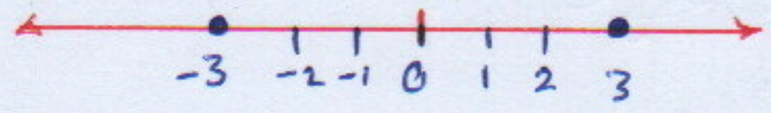


السؤال الثاني : أحل كلا من المعادلات الآتية ، و أمثل مجموعة الحل على خط الأعداد " إن أمكن "

1) $|3x| = 9$

$\frac{3x}{3} = \frac{9}{3}$ or $\frac{3x}{3} = \frac{-9}{3}$

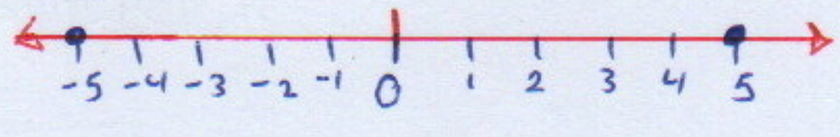
$x = 3$ or $x = -3$



2) $|-6m| = 30$

$-6m = 30$ or $-6m = -30$

$m = -5$ or $m = 5$



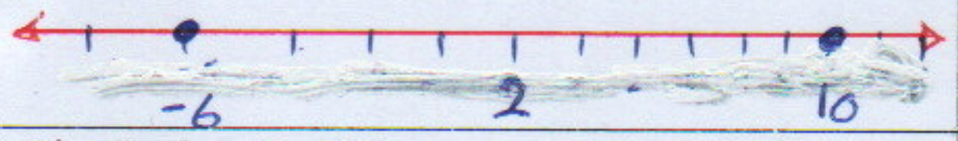
3) $|-4 + 2x| = 16$

$-4 + 2x = 16$ or $-4 + 2x = -16$

$+4 \quad +4$ $+4 \quad +4$

$2x = 20$ $2x = -12$

$x = 10$ $x = -6$



4) $|y + 8| - 5 = 2$

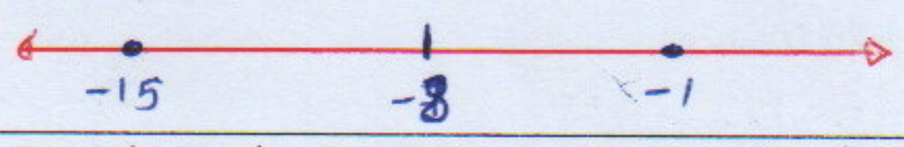
$+5 \quad +5$

$|y + 8| = 7$

$y + 8 = 7$ or $y + 8 = -7$

$-8 \quad -8$ $-8 \quad -8$

$y = -1$ $y = -15$

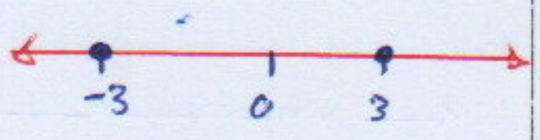


4) $3|-8x| + 8 = 80$

$-8 \quad -8$

$\frac{3|-8x|}{3} = \frac{72}{3}$

$|-8x| = 24$



$\frac{-8x}{-8} = \frac{24}{-8}$ or $\frac{-8x}{-8} = \frac{-24}{-8}$

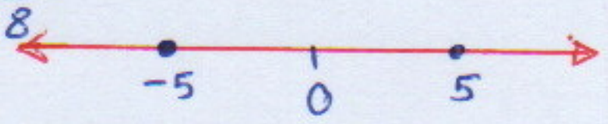
$x = -3$ $x = 3$

5) $5 - 8|-2x| = -75$

$-5 \quad -5$

$\frac{-8|-2x|}{-8} = \frac{-80}{-8}$

$|-2x| = 10$



$\frac{-2x}{-2} = \frac{10}{-2}$ or $\frac{-2x}{-2} = \frac{-10}{-2}$

$x = -5$ $x = 5$

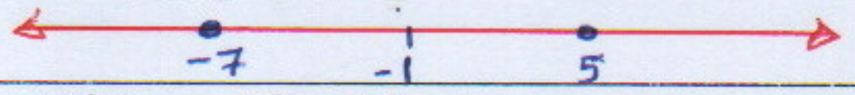
6) $\frac{|4m+4|}{8} = 3 \rightarrow |4m+4| = 24$

$4m + 4 = 24$ or $4m + 4 = -24$

$-4 \quad -4$ $-4 \quad -4$

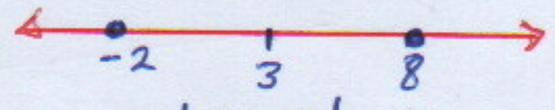
$\frac{4m}{4} = \frac{20}{4}$ $\frac{4m}{4} = \frac{-28}{4}$

$m = 5$ $m = -7$



7) $3 - |2y - 6| = -7$

$-3 \quad -3$



$\frac{-|2y-6|}{-} = \frac{-10}{-} \rightarrow |2y-6| = 10$

$2y - 6 = 10$ or $2y - 6 = -10$

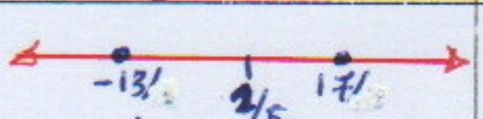
$+6 \quad +6$ $+6 \quad +6$

$\frac{2y}{2} = \frac{16}{2}$ $\frac{2y}{2} = \frac{-4}{2}$

$y = 8$ $y = -2$

9) $2 - 5|5m - 2| = -73$

$-2 \quad -2$



$\frac{-5|5m-2|}{-5} = \frac{-75}{-5} \rightarrow |5m-2| = 15$

$5m - 2 = 15$ or $5m - 2 = -15$

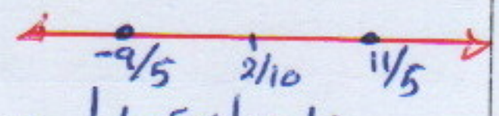
$+2 \quad +2$ $+2 \quad +2$

$5m = 17$ $5m = -13$

$m = 17/5$ $m = -13/5$

10) $6|1 - 5x| - 3 = 57$

$+3 \quad +3$



$\frac{6|1-5x|}{6} = \frac{60}{6} \rightarrow |1-5x| = 10$

$1 - 5x = 10$ or $1 - 5x = -10$

$-1 \quad -1$ $-1 \quad -1$

$\frac{-5x}{-5} = \frac{9}{-5}$ $\frac{-5x}{-5} = \frac{-11}{-5}$

$x = -9/5$ $x = 11/5$

11) $3 - 2|x + 6| = 25$

$-3 \quad -3$

$\frac{-2|x+6|}{-2} = \frac{22}{-2}$

$|x+6| = -11$

$\emptyset$

لا يوجد حل .

12) $\left|x - \frac{1}{2}\right| = \frac{5}{2}$

$x - \frac{1}{2} = \frac{5}{2}$ or $x - \frac{1}{2} = -\frac{5}{2}$

$x = 3$ or $x = -2$