CHAPTER 6 EXAM Review

NAME Key

SOLVE (1-4 4 points, 5-6, 6 points, 7-8 8 points)

1. $\frac{5}{10} < \frac{10x}{10}$

$x > \frac{1}{2}$

2. $x - 3 \geq -15$

$+3 \quad +3$

$x \geq -12$

3. $9x - 3 > 15$

$+3 \quad +3$

$\frac{9x}{9} > \frac{18}{9}$ $\quad x > 2$

4. $-9 - 5x < 16$

$+9 \quad +9$

$\frac{-5x}{-5} < \frac{25}{-5}$

$x > -5$

5. $5 + 4x \geq 6x - 9$

$-4x \quad -4x$

$5 \geq 2x - 9$

$+9 \quad +9$

$\frac{14}{2} \geq \frac{2x}{2}$ $\quad x \leq 7$

$7 \geq x$

6. $4 - 4x \geq -4x + 7$

$+4x \quad +4x$

$4 \geq 7$ No solution

7. $5(3x + 7) \geq 7(X - 3)$

$15x + 35 \geq 7x - 21$

$-7x \quad -7x$

$8x + 35 \geq -21$

$-35 \quad -35$

$8x \geq -56$

$x \geq -7$

8. $-2(2 - 2x) < 4(X + 5) - 24$

$-4 + 4x < 4x + 20 - 24$

$-4x \quad -4x$

$-4 < -4$

All solutions

$-2(2-2x) < 2(x+5) - 14$

$-4 + 4x < 2x + 10 - 14$

$-4 + 4x < 2x - 4$

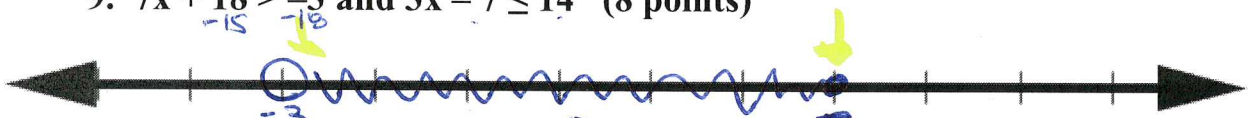
$2x < 0$

$x < 0$

9 – 14 SOLVE AND GRAPH(if you use extra paper attach it)

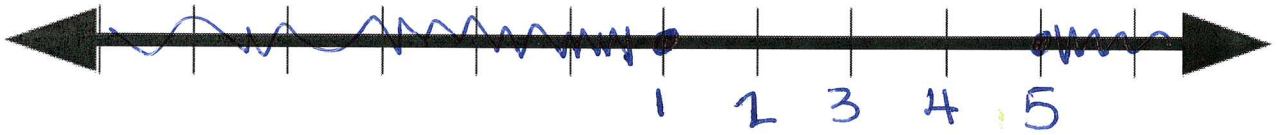
9. $7x + 18 > -3$ and $3x - 7 \leq 14$ (8 points)

$-15 \quad -18$



$x > -3$ & $x \leq 7$

10. $12x - 7 \leq 5$ or $13 \leq 6x - 17$ (8 points)



$12x - 7 \leq 5$

$12x \leq 12$

$x \leq 1$

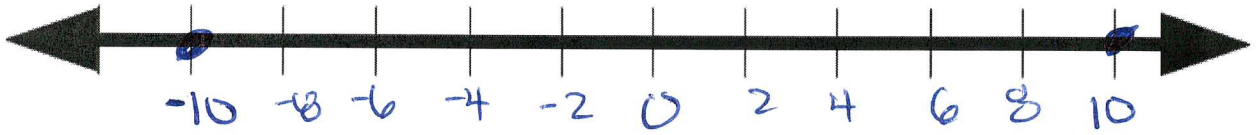
$13 \leq 6x - 17$

$30 \leq 6x$

$5 \leq x$

$x \geq 5$

11. $|x| = 10$ (6 points)

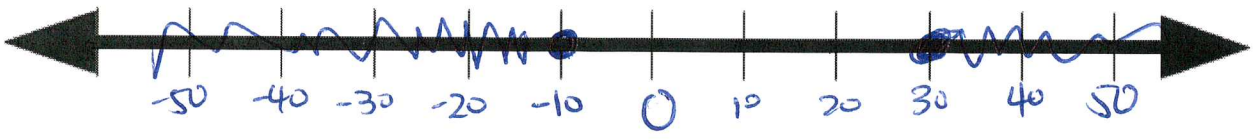


12. $|x - 10| \geq 20$ (6 Points)

or

$x - 10 \geq 20$ or $x - 10 \leq -20$

$x \geq 30$ $\quad$ $x \leq -10$



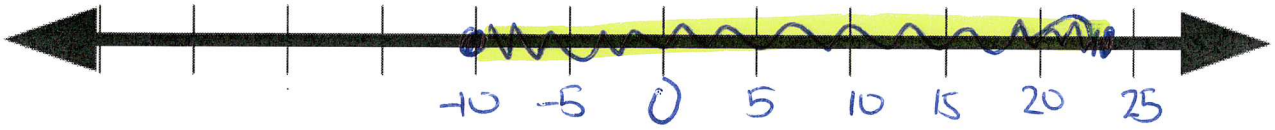
$-17 \le 7 - x \le 17$

$-7 \quad -7 \quad -7$

$\frac{-24}{-1} \le \frac{-1x}{-1} \le \frac{10}{7}$

$24 \ge x \ge -10$

13. **$|7 - x| \le 17$ (8 points)**



14. **$|4x - 8| \ge 28$ (8 points)**

$4x - 8 \ge 28$ or $4x - 8 \le -28$

$\frac{4x}{4} \ge \frac{36}{4}$ $\quad\quad$ $\frac{4x}{4} \le \frac{-20}{4}$

$x \ge 9$ or $x \le -5$

15. **Each type of fish thrives in a specific range of temperatures. The optimum temperatures for sharks range from 16 degrees Celsius to 22 degrees Celcius. If the value of the temperature for a clownfish is 3x -2 , what value of x make the clownfish thrives?**

$16 < 3x - 2 < 22$

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

$\frac{18}{3} < \frac{3x}{3} < \frac{24}{3}$

$6 < x < 8$

16. **Fred's scores on 3 of the first 4 tests were 91, 95, and 88. What must he score on the last test to have an average of <u>at least</u> 92 on all 4 tests? (8 points)**

$\frac{91 + 95 + 88 + x}{4} \ge \frac{92}{1}$

$274 + x \ge 368$

$\boxed{x \ge 94}$

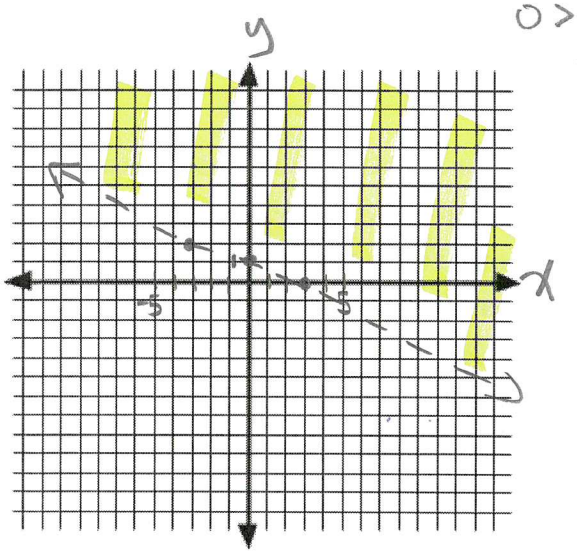
17-18 (4 points each)

17. Graph the following $y > -\frac{1}{3}x + 1$

$0 > 0 + 1$

$0 > 1$?

NO



18. Graph the following $y \leq 3x + 2$

$0 \leq 0 + 2$

$0 \leq 2$ ✓