	Ext (4)	Pro (3)	Dev (2)	Eme (1)
Core Skill 1				
Core Skill 2				
Core Skill 3				
Core Skill 4				
Overall				

Math 9 Ch6 Linear Equation Test Name: _____

Core Skills #1: Linear Equation SHOW ALL WORK!!

1. Solve: $x - 2 = -7$ (+2, +2)

$x = -5$

$x =$ -5

2. Solve: $7x - 4x + 3 = 24$ (−3)

$3x = 21$ (÷3, ÷3)

$x = 7$

$x =$ 7

3. Solve: $-\frac{5}{3}x - 4 = \frac{3}{4}x + 25$ (·12, ·12, ·12, ·12) LCM: 12

$-20x - 48 = 9x + 300$

$-48 - 300 = 9x + 20x$

$-348 = 29x$

$x =$ -12

4. Solve: $3(x + 1) = 5(x - 1)$

$3x + 3 = 5x - 5$

$+3 + 5 = 5x - 3x$

$8 = 2x$

$4 = x$

$x =$ 4

LCM: 30

5. Solve: $\frac{1}{2}(x - 3) + \frac{2}{3}(2 - x) - \frac{1}{5}(x + 10) = -4$ (·30, ·30, ·30, ·30)

$15(x-3) + 20(2-x) - 6(x+10) = -120$

$15x - 45 + 40 - 20x - 6x - 60 = -120$

$-11x - 65 = -120$ (+65)

$-11x = -55$

$x =$ 5

6. The sum of three consecutive even integers is 132. What are the three numbers?

1st # "x"
2nd # "x+2"
3rd # "x+4"

$(x) + (x+2) + (x+4) = 132$

$3x + 6 = 132$ (−6)

$3x = 126$

$x = 42$

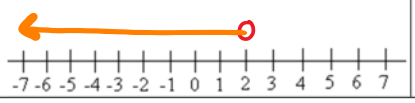
the three numbers are = 42, 44, 46

132 ✓

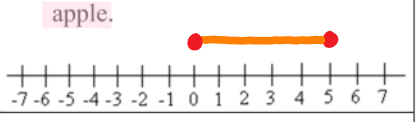
Core Skills #2: Graphs of Linear Inequality and statements

7. Graph $x \geq -4$

8. Graph $2 > x$

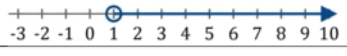


9. Peter eats no more than 5 kg of apple.

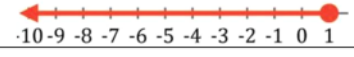


10. Write an inequality for each number line

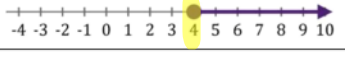
a) $x > 1$



b) $x \leq 1$



c) $x \geq 4$



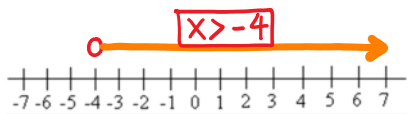
11. Graph the statement on the number line
" The temperature is higher than $-6\,°C$ tomorrow but it will not exceed $8\,°C$"

Core skill #3: Solve each inequality and graph the solution on a number line.

12. $x - 6 > -10$ (+6, +6)

$x > -4$

$x > -4$

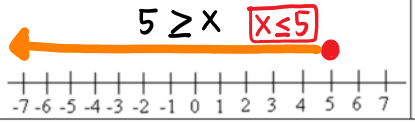


13. $6 + 7x \geq 9x - 4$

$6 + 4 \geq 9x - 7x$

$10 \geq 2x$

$5 \geq x$ $x \leq 5$



14. $-3x \leq -15$ (÷−3, ÷−3)

$x \geq 5$

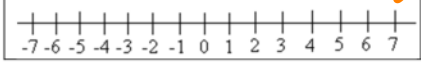
$x \geq 5$

15. $2x + 4 \geq 1 + 2x$

$4 \geq 1$ (always true)

All Real number

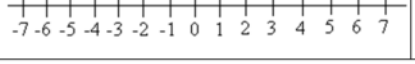
X is $\mathbb{R}$



16. $-\frac{3}{2} \cdot -\frac{2}{3}x < 4 \cdot -\frac{3}{2}$

$x > -6$

$x > -6$



17. $0.25 - 0.02x \leq 0.03x$ (·100 ·100 ·100)

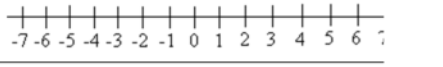
$25 - 2x \leq 3x$

$25 \leq 3x + 2x$

$25 \leq 5x$

$5 \leq x$

$x \geq 5$



18. Solve: $-\frac{2}{3}\left(\frac{1}{2} - \frac{x}{5}\right) \geq -\frac{3}{5}$ and graph the result on a number line (·15 ·15)

$10\left(\frac{1}{2} - \frac{x}{5}\right) \leq 9$

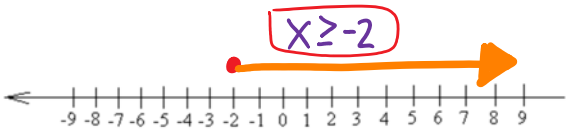
$5 - 2x \leq 9$

$5 - 9 \leq 2x$

$-4 \leq 2x$

$-2 \leq x$

$x \geq -2$



Core Skill 4

19. Prices for a Baby Yoda figure are given by the table below. One of the points has been plotted for you already!

Weight (g)	Price ($)
5	$20
8	$32
12	$48

a) Plot the data points on the graph to the right and draw a best fitted line

b) What should be the price for a 10g figure?

38 – 42 ok

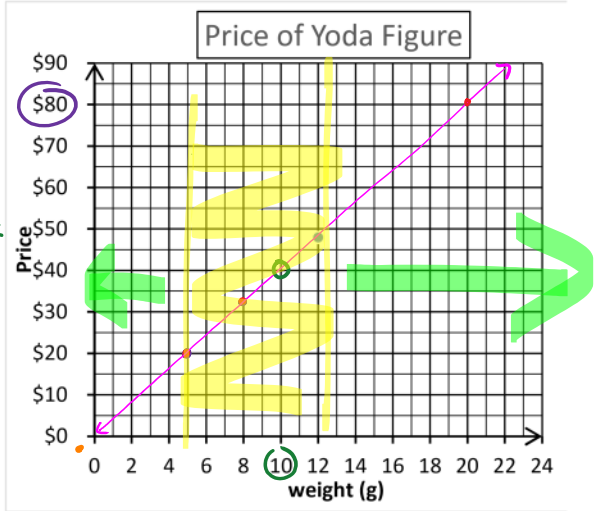
b) $40

Circle one: Interpolation / Extrapolation

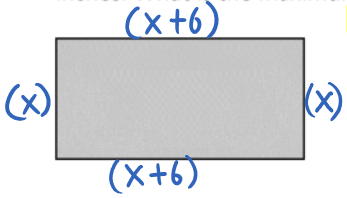
c) What size figure could I buy for $80?

c) 20 g

Circle one: Interpolation / Extrapolation



20. The length of a rectangle is 6 inches more than the width. The perimeter of the rectangle can be no more than 48 inches. What is the maximum width?



Let width be "x"

$(x) + (x+6) + (x) + (x+6) \leq 48$

$4x + 12 \leq 48$ (−12)

$4x \leq 36$

$x \leq 9$

Maximum Width 9 inches

End of Test