Grade 9 Practice Exam.

I. Muliple Choices.
Circle the letter of the correct answer/scantron sheet.

1. $2\times3+8\div2$
   a) 7
   b) 11
   c) -7
   d) 10

2. $\frac{1}{2}(4+6)-8$
   a) 3
   b) -3
   c) 6
   d) -6

3. $(4-8)-2(4-8)$
   a) 4
   b) 0
   c) -2
   d) -4

4. $\frac{-2a}{-2a}$ which is the most simplified answer?
   a) 1a
   b) a
   c) 0
   d) 1

5. Which answer is negative?
   a) $-\frac{1}{2}\times-\frac{3}{4}$
   b) $\frac{1}{2}\times\frac{3}{4}\div\frac{1}{8}$
   c) $-\left(-\frac{1}{4}\times\frac{3}{4}\right)$
   d) $\frac{3}{4}\times-\frac{1}{2}\times\frac{1}{4}$

6. Which answer is the greatest?

a) $-\frac{3}{4}\times-\frac{1}{2}$

b) $\frac{3}{4}\times\frac{1}{2}\div-\frac{3}{4}$

c) $18\times(-2)$

d) $64\div(-8)$

7. Which set contains possible answers for $y\leq -4$?

a) (-4, -3, -2)

b) (-3, -2, -1)

c) (-7, -6, -5)

d) (-3, -4, -5)

8. Which statement shows 3 consecutive numbers?

a) $3n$

b) $(n)+(n)+(n)$

c) $(n)+(2n)$

d) $(n)+(n+1)+(n+2)$

9. "Jaye is 2 years less than $\frac{1}{2}$ of Nik's age", which equation shows Jaye's age?

a) $2n-2$

b) $\frac{1}{2}n-2$

c) $2(n-2)$

d) $\frac{1}{2}(n-2)$

10. What is the next step in solving: $2-\left(\frac{3}{4}a+3\right)=12$

a) $-1\frac{1}{2}a+6=12$

b) $2-\left(3\frac{3}{4}a\right)=12$

c) $2-\frac{3}{4}a-3=12$

d) $-2+2-\left(\frac{3}{4}a+3\right)=12-2$

11. What is the next step in solving: $3(1-2y)+y=2-y$

a) $3-6y+y=2-y$
b) $3-6y+3y=2-y$
c) $-2+3(1-2y)+y=2-y-2$
d) $3y+y=2-y$

12. My worst golf score last year was +8 my best score was -3. What represents the change in my score from worst to best?

a) -11
b) 11
c) 5
d) -5

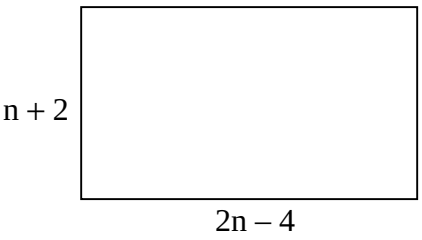
13. Which is a set of like terms?

a) a, -2a, 32a
b) -a, -2ab, b
c) c, -c, 2
d) 3, 5, a

14. What is the value of the expression $-3(x-1)-(2x-3)$ if $x=-5$?

a) 25
b) 11
c) 5
d) 31

15. Which expression shows the perimeter of the rectangle below?

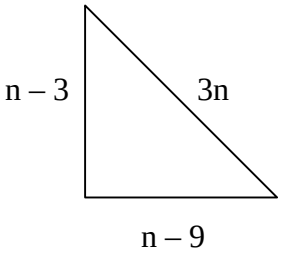


a) 3n – 2
b) 6n – 4
c) 2(3n + 2)
d) n + 2 + 2n – 4

16. The length of a rectangle is 3 times its width less 1. Which expression shows its perimeter?

a) 3w – 1
b) 4w – 2
c) 8w – 2
d) 3(w – 1)

17. What is the perimeter of the triangle?



a) 4n – 6
b) 3n – 12
c) 3n + 2n + 12
d) 5n – 12

18. If $-\frac{3}{8}y = 3$, what is the value of "y"?

a) $y = 8$
b) $y = -8$
c) $y = 24$
d) $y = -24$

19. In this equation of a line: $y = -2x - 4$

a) the slope is -4 and the y-intercept is -2
b) the slope is -2 and the y-intercept is -4
c) you cannot tell which is the slope and the y-intercept
d) the slope is -2 and the y-intercept is 4

20. The slope of the line $x = -2$ is

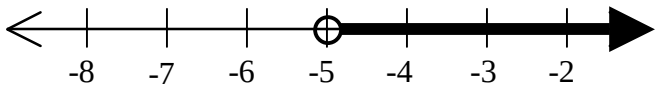
a) 1
b) undefined
c) -2
d) 0

21. The y-intercept of the line $y = +5$ is

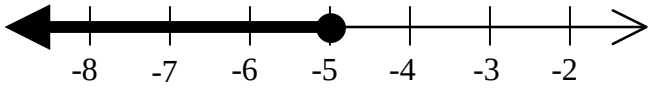
a) undefined
b) +5
c) 0
d) no y-intercept

22. Which inequality is shown by the graph?

a) $x > -5$
b) $x \geq -5$
c) $x \leq -5$
d) $x < -5$

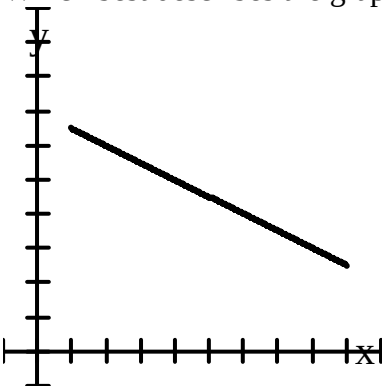


23. Which inequality is shown by the graph?



a) $x > -5$
b) $x \geq -5$
c) $x \leq -5$
d) $x < -5$

24. Which best describes the graph?



a) negative relationship
b) positive relationship
c) no relationship
d) as x increases, y increases

II. **Short Answers.**

1. Evaluate: Integers.

a) (-15) + (-3)

b) (23) + (-10)

c) 15 – 12 + 3 – 6 – 8 + 2

d) 3 – (-8)

e) (-3) × (-4)

f) (-6)(-5)

g) $\frac{-72}{-9}$

h) $\frac{-x}{-x}$

i) $-\frac{3}{5}\times 10$

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

k) $\frac{5}{-6}\times\frac{2}{3}$

l) $\frac{2}{-3}\div\frac{-2}{3}$

m) $2\frac{1}{2}\times\frac{2}{5}$

n) $4\frac{2}{5}+\left(-2\frac{2}{3}\right)$

2. Simpilify.

a) $5x+2x$

b) $2x-7-6x+3$

c) $-3(4x+1)-(7x-5)$

d) $5(2x-3)+10-3x$

e) $7(2x-3)-3(5-2x)$

f) $-2(4m-7n)+3(m-13n)$

g) $-3(2q-5)+8q-9$

h) $4\left(-k+\frac{3}{4}\right)-(5k+4)$

i) $-(7.4x-3.2)-1.4x-3.5$

j) $4(6g-8h)-3(h-5g)$

3. Solve and verify the following.

a) $4b-7=2b+5$ Verify

b) $3k+4=4$ Verify

c) $9(1-2a)=81$ Verify

d) $\frac{1}{4}x-\frac{3}{4}=1$ Verify

e) $-3(2-a)-a=1$ Verify

f) $3(2+2b)=-2(5-4b)$ Verify

g) $\frac{1}{2}x+\frac{1}{3}x=10$ Verify

h) $3(4x-1)=4-2(5-3x)$ Verify

4. Solve, verify and graph.

a) $9>-3x$ Verify Graph

b) $61\le 13a-4$ Verify Graph

c) $-3x+8<5-7x$ Verify Graph

d) $-9r+16<-11$ Verify Graph

e) $\frac{1}{2}b-5<4-b$ Verify Graph

5. Write an algebraic equation or inequality that will solve the problem.
Solve the problem.

a) Three consecutive numbers added up equal 66. What is the largest of the numbers?

b) A swimming pool has a rectangular fence around it. If the perimeter of the fence is 120m and the length is 7 m longer then the width. What are the dimensions of the pool?

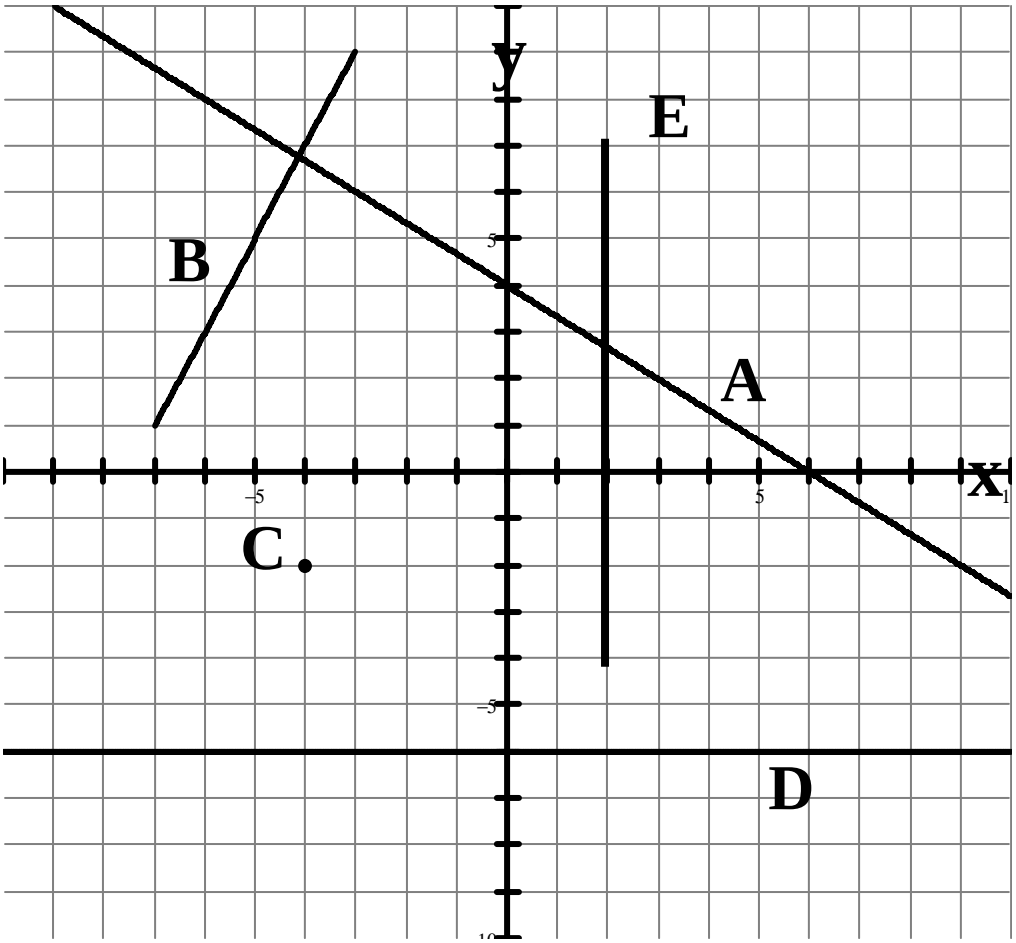
c) Ann has three more dollars then Mary. The sum of their money is 35 dollars. How much money does Mary have?

d) Bob scored twice as many goals as Fred. If their total number of goals is 72, how many goals did Fred score?

e) Mrs Mazza is three times older then her son, John. In 12 years, Mrs. Mazza will be twice as old as her son. How old is John now?

f) Rosie has $17 dollars to go shopping. The store is having a sale where everything is $\frac{1}{3}$ off. What is the highest regular priced item that Rosie can buy?

6. Answer the questions below.



a) Which line passes through (2, -3)?

b) What is the coordinate of point C?

c) What s the equation of line D?

d) What is the slope of line D?

e) What is the equation of line E?

f) What is the slope of line B?

g) What is the equation of line A?

h) Draw this line on the graph $y = -\frac{2}{3} + 2$.

7. Fill in the table of values.

$y = 2x + 1$

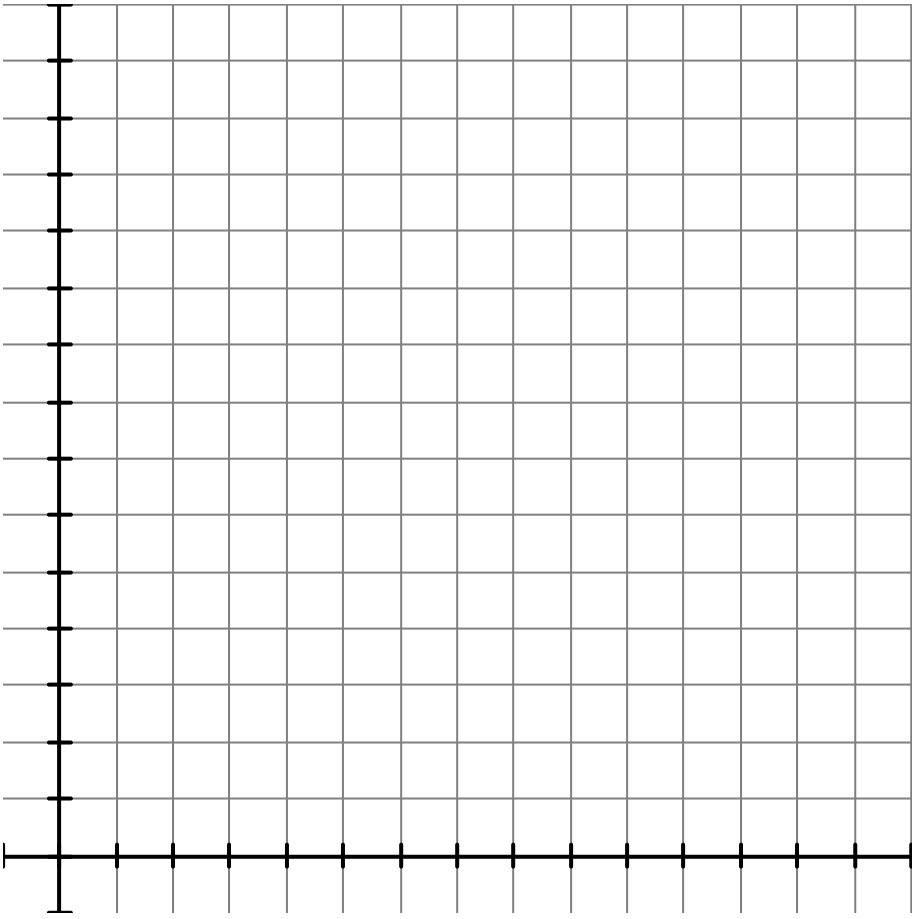
x	y
-2	
-1	
0	
1	
2	

$y = \frac{1}{2}x - 2$

x	y
-2	
-1	
0	
1	
2	

8. Sketch the graph for the data below egg size and time to hatch in days

size cm	16	89	50	21	54	29	37	60	90	43
time to hatch days	12	28	20	13	25	17	26	28	32	21



a) Draw the line of best fit
b) What type of relationship best describes the graph?
c) Predict how much time required to hatch 75 cm. egg.