COWICHAN VALLEY
School District

Math Screener

Grade Nine

September 2025

COWICHAN VALLEY School District

Grade Nine

The Cowichan Valley Mathematics Assessment has been designed as a common formative assessment and universal screener for our district. Each grade level assessment is based on foundational skills from the prior year. The assessment is also designed to allow educators to use prior grade assessments to identify learning needs of students. The screener questions align directly with the identified foundational skills found in instructional resource documents for each grade. Access the documents here or use the QR code.

The information gained from this tool will serve as a universal screener for our district's tiered instruction model. The data will inform individual, small group, and class instruction. It will also help identify patterns of instructional needs in a class, school or across the district as we work to ensure students master these foundational skills.

Each fall, classroom teachers and school teams will work together to identify each student's strengths and needs with foundational mathematics skills. Teachers are encouraged to administer the assessment in *small sections* during the first eight weeks of the school year.

The Mathematics Assessment has been designed in partnership with teachers across our district with the following foundational principles:

1. Aligned with curriculum standards from the previous grade
2. First Peoples Principles of Learning
3. Assessment *with* and *for* our learners; not *to* our learners

In addition, teachers are invited to paraphrase directions to align with classroom language, use classroom materials (alternate concrete materials, dry erase boards, flash cards), and administer the assessment in small parts.

Each grade level screener is an inventory of skills and does not represent the full, complex set of skills necessary for proficiency in mathematics. Our district's Numeracy Framework provides more in- depth information, instructional resources, and intervention strategies.

The **Grade Nine** assessment is a written response format. Teachers are encouraged to do follow-up interviews when clarification is needed.

Scoring is yes (shows mastery) or no. Where the student is required to provide more than just a numerical answer, some elaborations may be given in the key to help teachers determine mastery.

To enter scores, teachers will input data into the dashboard.

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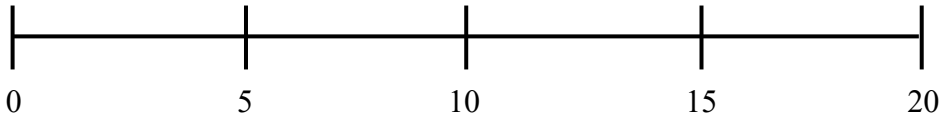
Name: _____ Date: _____

Number Sense

#	Question
Determining Perfect Squares	
1	A perfect square is a number that is made by multiplying another number by itself, for example $3 \times 3 = 9$. Is 120 a perfect square? Show how you came up with the answer.
Roots	
2	Find the square root of 25 $\sqrt{25} =$ _____
3	Find the cube root of 8 $\sqrt[3]{8} =$ _____
4	Circle which 3 of the following are between 8 and 9: $\sqrt{55}$ $\sqrt{61}$ $\sqrt{66}$ $\sqrt{71}$ $\sqrt{77}$ $\sqrt{82}$
5	Show where $\sqrt{55}$ is on the number line: 
Factorization	
6	Prime factorization is when a number is broken down into a set of prime numbers that multiply together to make the number, for example 30 = 2 x 3 x 5. Factor 24 into its set of prime numbers.

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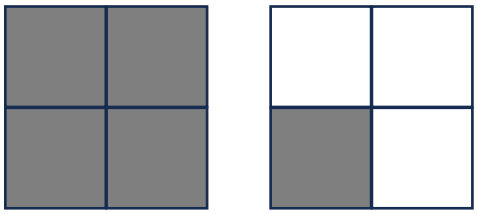
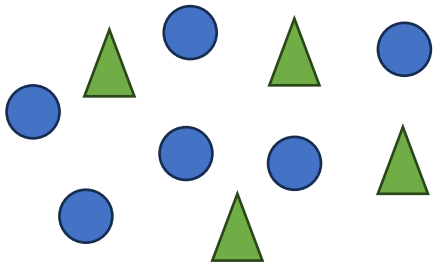
Percentages	
7	What percentage of the diagram is shaded? a) 75% b) 125% c) 100% d) 150% 
8	Rewrite as a percentage. 0.03 = _____%
9	Write 156% as a decimal. 156% = _____
Proportional Reasoning	
10	What is 10% of 438? 10% of 438 = _____
11	What is the ratio of triangles to circles? What is the ratio in lowest terms? _____ : _____ _____ : _____ 

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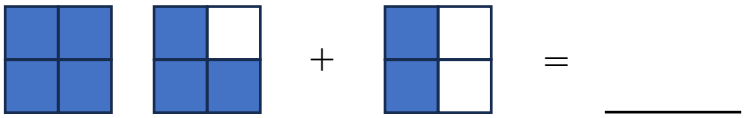
Computational Fluency

Adding & Subtracting Fractions	
12	Find the fraction using the image. State your number as a mixed number or improper fraction. 
13	Calculate: $\frac{3}{4} + \frac{1}{2} =$
14	Calculate: $\frac{13}{15} - \frac{3}{5} =$
Multiplying Fractions	
15	Calculate: $\frac{1}{5} \times \frac{2}{3} =$
16	Calculate: $\frac{1}{4} \times 2\frac{2}{3} =$

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Dividing Fractions	
17	Calculate: $\frac{1}{7} \div \frac{2}{3} =$
Order of Operations	
18	Calculate: $\frac{1}{10} + \frac{2}{5} \times \frac{3}{2} =$
19	Calculate: $\frac{2}{3} \times \left(2 - \frac{4}{5}\right) =$

Expressions	
20	Solve the following expression: $4n - 9$ when $n = 6$
21	Write an expression for the statement: Three times a number minus five.
22	Solve the following expression $4x + 5 - 0.5x + 5$ when $x = 4$
Solving Equations	
23	Solve the equation for *w* $4w - 16 = -8$
24	Solve the equation for *x* $-16 = -3x + 5$

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Linear Relations

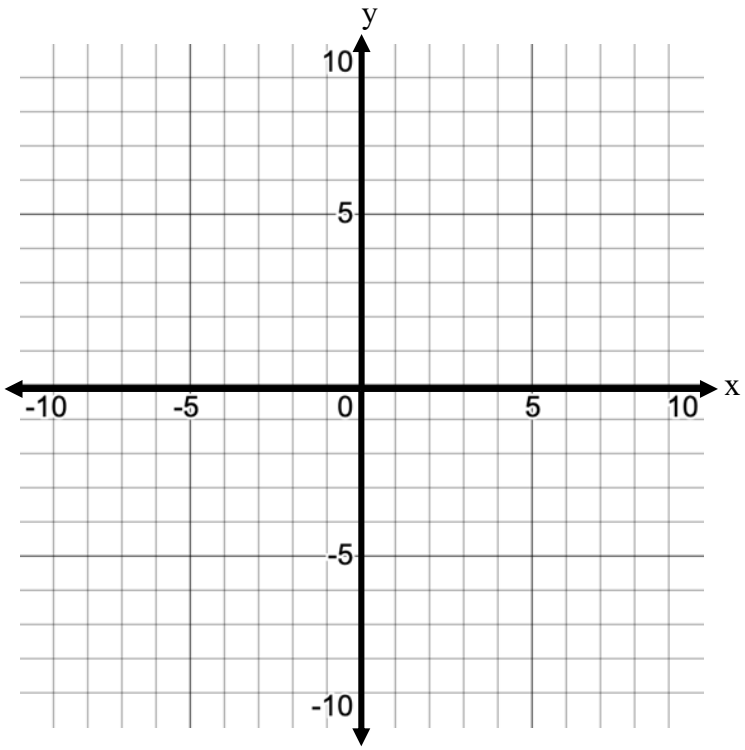
25 Use the equation to fill in the table:

$$y = 3x - 11$$

x	y
4	
2	
0	
-2	
-4	

26 Plot the points and make a line graph (also called a linear graph) with the following table of values

x	y
6	7
3	4
0	1
-3	-2
-6	-5



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Scoring Sheet for Dashboard Entry Student Name:

Determining Perfect Squares	____/1
Roots	____/4
Factorization	____/1
Percentages	____/3
Proportional Reasoning	____/2
Add/Sub Fractions	____/3
Multiplying Fractions	____/2
Dividing Fractions	____/1
Order of Operations	____/2
Expressions	____/3
Solving Equations	____/2
Linear Relations	____/2

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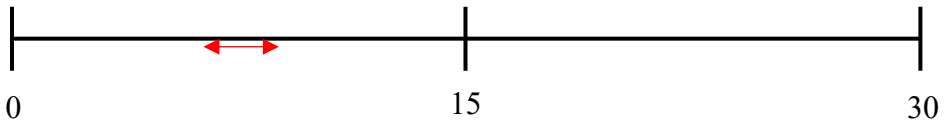
Number Sense Answer Key – Grade Nine

Question #	Answers
1	No, explanations will vary.
2	5
3	2
4	$\sqrt{66}, \sqrt{71}, \sqrt{77}$
5	 Red arrow represents range of answer.
6	2, 2, 2, 3
7	b
8	3%
9	1.56
10	43.8
11	4:6 (or equivalent) and 2:3 (lowest terms)

Computational Fluency Answer Key – Grade Nine

Question #	Answers
12	$2\frac{1}{4}$ or $\frac{9}{4}$
13	$1\frac{1}{4}$ or $\frac{5}{4}$
14	$\frac{4}{15}$
15	$\frac{2}{15}$

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16	$\frac{8}{12}$ or $\frac{4}{6}$ or $\frac{2}{3}$
17	$\frac{3}{14}$
18	$\frac{7}{10}$
19	$\frac{4}{5}$ or $\frac{12}{15}$
20	15
21	$3n - 5$ (variable could be different)
22	24
25	$w = 2$
26	$x = 7$
27	-23, -17, -11, -5, 1
28