To the student - Information about the oral part
You will be given a problem that you will solve in writing, and then you will present your solution orally. If you need, you can ask your classmates and your teacher for help when solving the problem. Your oral presentation starts with you presenting what the problem is about and then you describe and explain your solution. You must present all steps in your solution. However, if you have done the same calculation several times (for example in a table) it might be sufficient if you present some of the calculations. Your presentation should take a maximum of 5 minutes, and be held to a smaller group of your classmates and teachers.

When assessing your oral presentation, the teacher will take into consideration:
- how complete, relevant and structured your presentation is,
- how well you describe and explain the train of thought behind your solution,
- how well you use the mathematical terminology.

How complete, relevant and structured your presentation is
Your presentation must contain the necessary parts in order for a listener to follow and understand your thoughts. What you say should be in a suitable order and be relevant. The listener must understand how calculations, descriptions, explanations and conclusions are connected with each other.

How well you describe and explain the train of thought behind your solution
Your presentation should contain both descriptions and explanations. To put it simple, a description answers the question *how* and an explanation answers the question *why*. You describe something when you for instance tell *how* you have done a calculation. You explain something when you for instance justify *why* you could use a certain formula.

How well you use the mathematical terminology
In your presentation you should use a language that contains mathematical terms, expressions and symbols, suitable for the problem you have solved.

Mathematical terms are for example words like "exponent", "function" and "graph".
An example of a mathematical expression is that x^2 is read "x to the power 2" or "x squared".
Some examples of mathematical symbols are π and $f(x)$, which are read "pi" and "f of x".

Problem 1. Solving simultaneous equations

Name:_____

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a)   Solve the simultaneous equations $\begin{cases} 2x - y = 8 \\ 3x + 2y = 5 \end{cases}$ algebraically.

b)   Solve the simultaneous equations $\begin{cases} x + y = 9 \\ 2y - 4x = -6 \end{cases}$ graphically.
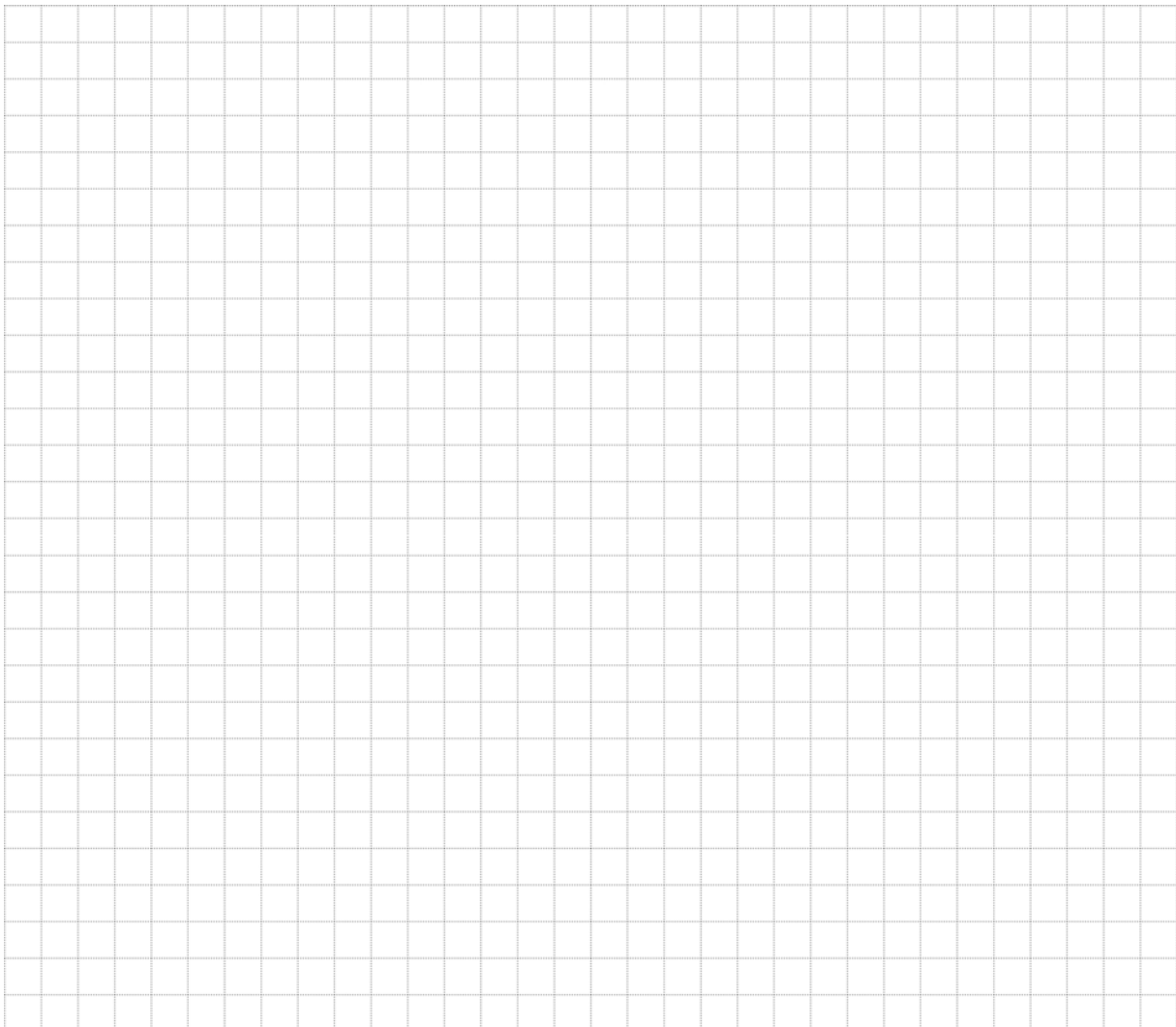
Problem 2. Solving quadratic equations
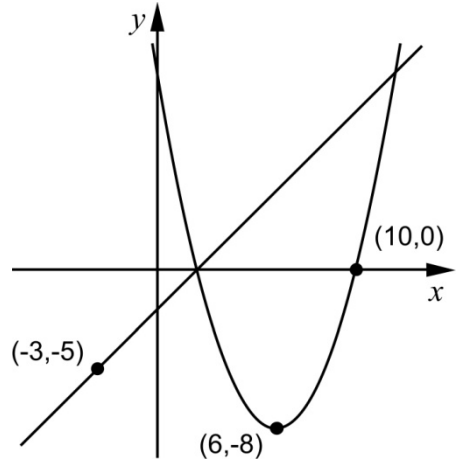
Name:_____

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a) Solve the equation $x^2 - 4x = 5$ algebraically.

b) Solve the equation $x^2 - 2x - 8 = 0$ graphically.

Problem 3. Find the equation of the line

<div align="right">Name:_____</div>

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The figure shows the graph of a straight line and the graph of a quadratic function that has a minimum value of -8. The line and the graph of the quadratic function intersect at the x-axis.

Find the equation of the line.

Problem 4. Coffee temperature

Name:_____

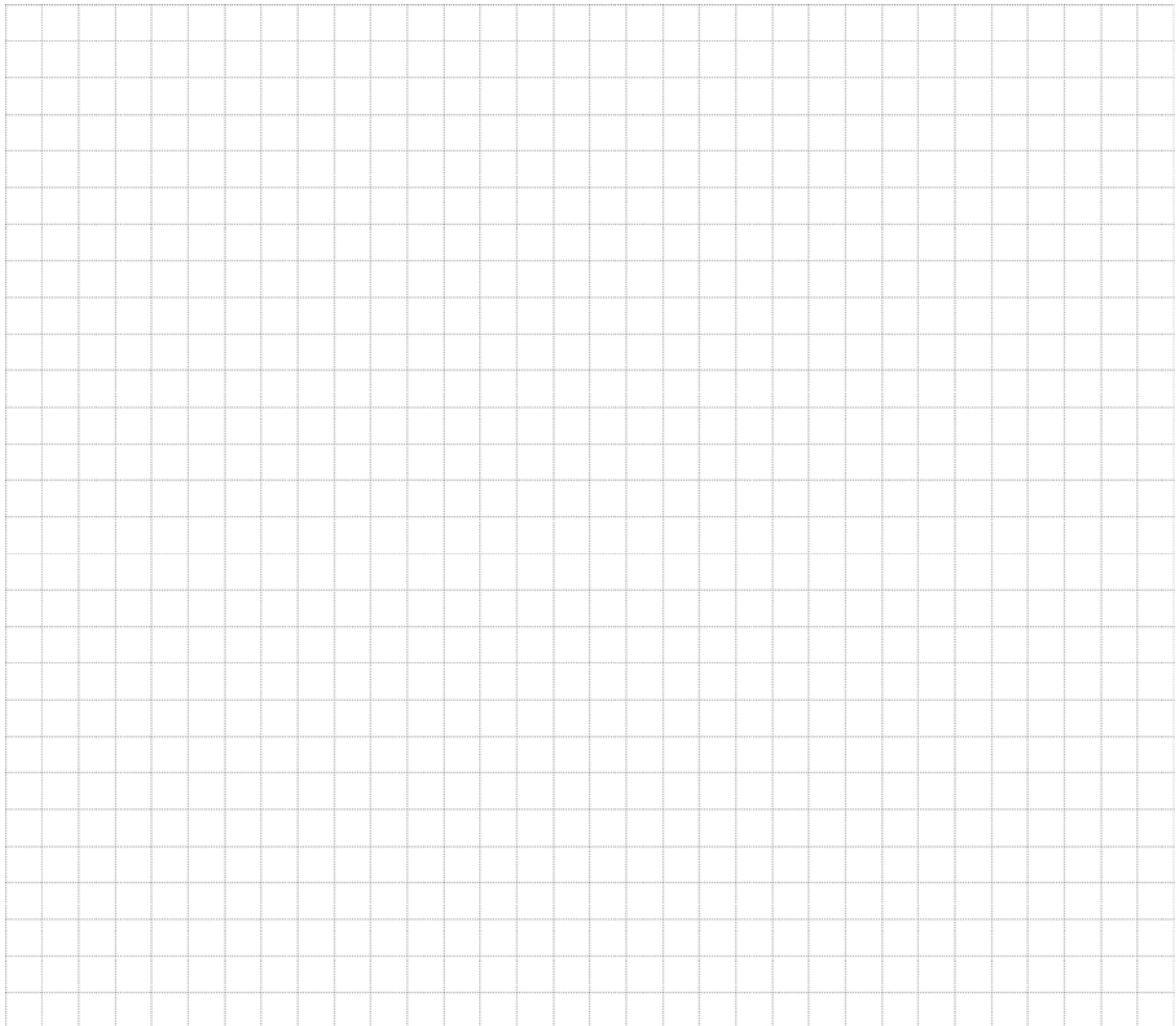| When assessing your oral presentation, the teacher will take into consideration: |
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Johan fills a thermos flask with hot coffee and immediately places it outside where the temperature is around 0°C. The temperature of the coffee decreases exponentially with time. The table shows the temperature of the coffee at different times. The coffee is regarded drinkable as long as the temperature does not fall below 55°C.

Time (h)	Temperature (°C)
0	93
6.0	50

How long after Johan has placed the thermos flask outside is the coffee drinkable?

Bedömningsmatris för bedömning av muntlig kommunikativ förmåga

Kommunikativ förmåga	E	C	A	Max
Fullständighet, relevans och struktur Hur fullständig, relevant och strukturerad elevens redovisning är	Redovisningen kan sakna något steg eller innehålla något ovidkommande. Det finns en övergripande struktur men redovisningen kan vara bitvis fragmentarisk eller rörig. (1/0/0)		Redovisningen är i huvudsak fullständig och endast relevanta delar ingår. Redovisningen är välstrukturerad. (1/0/1)	(1/0/1)
Beskrivningar och förklaringar Förekomst av och utförlighet i beskrivningar och förklaringar	Någon förklaring förekommer men tyngdpunkten i redovisningen ligger på beskrivningar. Utförligheten i de beskrivningar och de förklaringar som framförs kan vara begränsad. (1/0/0)		Redovisningen innehåller tillräckligt med utförliga beskrivningar och förklaringar. (1/0/1)	(1/0/1)
Matematisk terminologi Hur väl eleven använder matematiska termer, symboler och konventioner.	Eleven använder ibland matematisk terminologi med rätt betydelse. (1/0/0)	Eleven använder ofta matematisk terminologi med rätt betydelse och vid lämpliga tillfällen. (1/1/0)	Eleven använder i huvudsak matematisk terminologi med rätt betydelse och vid lämpliga tillfällen. (1/1/1)	(1/1/1)
Summa				(3/1/3)