


what kind of admission math test does engelbrektsskolan host and can you provide sample test



 **Engelbrektsskolan**
Engelbrektsskolan

Engelbrektsskolan, located in Östermalm, Stockholm, is renowned for its strong emphasis on mathematics education. The school offers specialized programs designed to challenge and engage students with a keen interest in mathematics.

Admission Process:

While specific details about admission tests at Engelbrektsskolan are not publicly available, schools with advanced mathematics programs often assess applicants' mathematical abilities to ensure appropriate placement. These assessments may include problem-solving tasks, logical reasoning questions, and evaluations of mathematical understanding.

Sample Mathematics Problems:

To prepare for potential assessments, consider practicing problems that test a range of mathematical skills. Here are some sample questions:

1. **Algebraic Expressions:** Simplify the expression $2(x + 3) - 4(x - 2)$.
2. **Geometry:** Calculate the area of a triangle with a base of 10 cm and a height of 5 cm.
3. **Number Theory:** Determine the greatest common divisor (GCD) of 48 and 180.
4. **Probability:** If a fair six-sided die is rolled, what is the probability of rolling an even number?
5. **Logical Reasoning:** If all Bloops are Razzies and all Razzies are Lazzies, are all Bloops necessarily Lazzies? Explain your reasoning.

Preparation Tips:

- **Practice Regularly:** Engage in daily problem-solving to enhance your mathematical skills.
- **Join Math Clubs:** Participate in extracurricular activities that focus on mathematics to gain exposure to diverse problems and solutions.
- **Seek Resources:** Utilize textbooks, online platforms, and educational websites that offer practice problems and tutorials.
- **Consult Educators:** Reach out to current mathematics teachers or tutors for guidance tailored to your strengths and areas for improvement.

For more information about Engelbrektsskolan's programs and admission procedures, consider contacting the school directly or visiting their official website.

Sources

can you provide Sample Mathematics Problems close to engelbrektsskolan admission test in swedish



Here are some sample mathematics problems translated into Swedish that might resemble those found on an admission test for a school like Engelbrektsskolan. These problems cover algebra, geometry, arithmetic, and logical reasoning, areas commonly assessed in entrance exams.

Provlösningsexempel på svenska

1. Algebraiska uttryck:

Förenkla uttrycket:

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

2. Geometri:

Beräkna arean av en triangel med en bas på 8 cm och en höjd på 6 cm.

3. Talteori:

Hitta den största gemensamma delaren (SGD) för talen 54 och 72.

4. Procentberäkning:

En vara kostar 400 kr, men det är 20% rabatt. Vad är det nya priset?

5. Bråk:

Förenkla bråket:

$$\frac{18}{24}$$

6. Logiskt resonemang:

Om alla Katter är Djur, och alla Djur är Levande varelser, är alla Katter då Levande varelser? Förklara ditt svar.

7. Sannolikhet:

En kortlek innehåller 52 kort. Om du drar ett kort slumpmässigt, vad är sannolikheten att det är en hjärter?

8. Problem med ekvationer:

Lös ekvationen:

$$2x + 5 = 15$$

9. Mönster och sekvenser:

Vilket är det nästa talet i sekvensen?

2, 4, 8, 16, ...

10. Tillämpning:

En bil kör med en hastighet på 60 km/h. Hur långt hinner bilen på 2,5 timmar?

Hur du kan förbereda dig:

1. **Träna på matematik dagligen:** Öva på problem inom algebra, geometri, och logiskt tänkande.
2. **Använd svenska resurser:** Webbplatser som Mattecetrum erbjuder gratis övningsuppgifter och handledning.
3. **Simulera test:** Försök att lösa liknande uppgifter under en tidsbegränsning för att simulera en provsituation.

Vill du att jag utvecklar förklaringar eller lösningar till dessa uppgifter?



I want to learn more swedish term and problem in swedish for these math problem, can you provide more information



Certainly! Here is a more detailed explanation of common Swedish mathematical terms, along with translations for different types of problems and topics, that will help you familiarize yourself with Swedish math terminology. This will be useful for understanding problems in Swedish.

Common Swedish Mathematical Terms

- **Addition** – Addition
- **Subtraction** – Subtraktion
- **Multiplication** – Multiplikation
- **Division** – Division
- **Fraction** – Bråk
- **Percentage** – Procent
- **Equation** – Ekvation
- **Expression** – Uttryck
- **Variable** – Variabel
- **Constant** – Konstant
- **Term** – Term
- **Factor** – Faktor
- **Product** – Produkt
- **Sum** – Summa
- **Difference** – Differens
- **Quotient** – Kvot
- **Root** – Rot
- **Exponent** – Exponent
- **Square root** – Kvadratroten
- **Prime number** – Primtal
- **Greatest common divisor (GCD)** – Största gemensamma delare (SGD)
- **Least common multiple (LCM)** – Minsta gemensamma multipel (MGM)

- **Area** – Area
 - **Perimeter** – Omkrets
 - **Volume** – Volym
 - **Angle** – Vinkel
 - **Radius** – Radie
 - **Diameter** – Diameter
 - **Circle** – Cirkel
 - **Triangle** – Triangel
 - **Rectangle** – Rektangel
 - **Square** – Kvadrat
 - **Polygon** – Polygon
 - **Symmetry** – Symmetri
 - **Probability** – Sannolikhet
 - **Mean (average)** – Medelvärde
 - **Median** – Median
 - **Mode** – Modus
 - **Range** – Spannvidd
-

Examples of Swedish Math Problems

Here are some examples of math problems in Swedish, with key terms highlighted, to help you become familiar with how problems are written and what vocabulary is used.

1. Algebra

Problem:

Förenkla uttrycket:

$$4(x + 5) - 3(x - 2)$$

Explanation:

- **Förenkla** – Simplify
- **Uttryck** – Expression
- **Ekvation** – Equation

This asks you to simplify the given expression by distributing and combining like terms.

2. Geometri (Geometry)

Problem:

Beräkna arean av en triangel med basen 10 cm och höjden 8 cm.

Explanation:

- **Beräkna** – Calculate
- **Area** – Area
- **Basen** – Base

- **Höjd** – Height

In this problem, you're calculating the area of a triangle, using the formula:

$$\text{Area} = \frac{1}{2} \times \text{Bas} \times \text{Höjd}$$

3. Talteori (Number Theory)

Problem:

Vad är den största gemensamma delaren (SGD) för 36 och 60?

Explanation:

- **Största gemensamma delaren (SGD)** – Greatest common divisor (GCD)

This asks for the greatest common divisor of two numbers, meaning the largest number that divides both without leaving a remainder.

4. Procent (Percentage)

Problem:

En vara kostar 600 kr, men det är 15% rabatt. Vad är det nya priset?

Explanation:

- **Procent** – Percentage
- **Rabatt** – Discount

To solve this, you calculate 15% of 600, subtract it from the original price to find the discounted price.

5. Bråk (Fractions)

Problem:

Förenkla bråket:

$$\frac{45}{60}$$

Explanation:

- **Förenkla** – Simplify
- **Bråk** – Fraction

You simplify the fraction by dividing both the numerator and denominator by their greatest common divisor (GCD).

6. Sannolikhet (Probability)

Problem:

En tärning rullas. Vad är sannolikheten att tärningen visar ett udda tal?

Explanation:

- **Tärning** – Die
- **Sannolikhet** – Probability

- **Udda tal** – Odd number

Here, you're asked to calculate the probability of rolling an odd number, which would be the probability of getting 1, 3, or 5 on a six-sided die.

7. Logiskt resonemang (Logical Reasoning)

Problem:

Om alla fåglar kan flyga och alla papegojor är fåglar, kan alla papegojor flyga?

Explanation:

- **Logiskt resonemang** – Logical reasoning
- **Fåglar** – Birds
- **Papegojor** – Parrots

This is a deductive reasoning problem asking you to evaluate the logical connection between birds and flying.

8. Räkning med bråk (Working with Fractions)

Problem:

Lägg ihop bråken:

$$\frac{1}{4} + \frac{2}{3}$$

Explanation:

- **Lägg ihop** – Add
- **Bråk** – Fraction

To solve this, you must find a common denominator and add the two fractions.

9. Problemlösning (Word Problem)

Problem:

Anna har 3 äpplen. Hon ger bort 2 äpplen till sin vän. Hur många äpplen har Anna kvar?

Explanation:

- **Äpplen** – Apples
- **Ge bort** – Give away

This is a simple subtraction problem: subtracting the apples given away from the total.

10. Funktioner (Functions)

Problem:

Om $f(x) = 2x + 3$, vad är $f(4)$?

Explanation:

- **Funktion** – Function
- **Värde** – Value

You're asked to evaluate the function at $x = 4$ by substituting 4 into the expression for $f(x)$.

How to Prepare:

1. **Practice Vocabulary:** Familiarize yourself with key Swedish math terms so you can understand problems better.
2. **Solve Problems:** Work through practice problems from Swedish textbooks or websites like Mattecentrum, which offers free resources in Swedish.
3. **Use Swedish Math Websites:** Try solving problems on Swedish educational platforms like Khan Academy's Swedish page or Matematikboken.

Would you like more examples or detailed solutions for any of these problems?

yes, I would like more examples or detailed solution for all these problems



Great! Below are **detailed solutions** for each of the problems listed, along with step-by-step instructions on how to solve them in Swedish.

1. Algebra:

Problem:

Förenkla uttrycket:

$$4(x + 5) - 3(x - 2)$$

Solution:

1. **Distribute the terms** (sprid ut termerna):

$$4(x + 5) = 4x + 20 \quad \text{och} \quad -3(x - 2) = -3x + 6$$

2. **Combine like terms** (kombinera liknande termer):

$$4x + 20 - 3x + 6 = (4x - 3x) + (20 + 6) = x + 26$$

Answer:

$$x + 26$$

2. Geometri:

Problem:

Beräkna arean av en triangel med basen 10 cm och höjden 8 cm.

Solution:

1. **Formula for area of triangle:**

$$\text{Area} = \frac{1}{2} \times \text{Bas} \times \text{Höjd}$$

2. **Substitute values:**

$$\text{Area} = \frac{1}{2} \times 10 \times 8 = 40 \text{ cm}^2$$

Answer:

$$40 \text{ cm}^2$$

3. Talteori (Number Theory):

Problem:

Vad är den största gemensamma delaren (SGD) för 36 och 60?

Solution:

1. Prime factorization (primtalsfaktorisering) for 36:

$$36 = 2^2 \times 3^2$$

Prime factorization for 60:

$$60 = 2^2 \times 3 \times 5$$

2. The GCD is the product of the smallest powers of common prime factors:

$$\text{SGD} = 2^2 \times 3 = 12$$

Answer:

$$12$$

4. Procent (Percentage):

Problem:

En vara kostar 600 kr, men det är 15% rabatt. Vad är det nya priset?

Solution:

1. Calculate 15% of 600 kr:

$$15\% \text{ av } 600 = \frac{15}{100} \times 600 = 90 \text{ kr}$$

2. Subtract the discount from the original price:

$$600 - 90 = 510 \text{ kr}$$

Answer:

$$510 \text{ kr}$$

5. Bråk (Fractions):

Problem:

Förenkla bråket:

$$\frac{45}{60}$$

Solution:

1. Find the GCD of 45 and 60, which is 15.
2. Divide both the numerator and denominator by 15:

$$\frac{45}{60} = \frac{45 \div 15}{60 \div 15} = \frac{3}{4}$$

Answer:

$$\frac{3}{4}$$

6. Sannolikhet (Probability):

Problem:

En tärning rullas. Vad är sannolikheten att tärningen visar ett udda tal?

Solution:

1. The possible outcomes for a six-sided die are: 1, 2, 3, 4, 5, and 6.
2. The odd numbers are 1, 3, and 5, so there are 3 favorable outcomes.
3. The total number of outcomes is 6.
4. **Probability:**

$$\text{Sannolikhet} = \frac{\text{antal udda resultat}}{\text{antal möjliga resultat}} = \frac{3}{6} = \frac{1}{2}$$

Answer:

$$\frac{1}{2} \text{ eller } 50\%$$

7. Logiskt resonemang (Logical Reasoning):

Problem:

Om alla fåglar kan flyga och alla papegojor är fåglar, kan alla papegojor flyga?

Solution:

1. The statement says that **all birds can fly**, and **all parrots are birds**.
2. Therefore, by the transitive property, **all parrots are birds**, and **all birds can fly**, which implies that **all parrots can fly**.

Answer:

Ja, alla papegojor kan flyga.

8. Räkning med bråk (Working with Fractions):

Problem:

Lägg ihop bråken:

$$\frac{1}{4} + \frac{2}{3}$$

Solution:

1. Find a **common denominator**. The least common denominator (LCD) for 4 and 3 is 12.
2. Convert both fractions:

$$\frac{1}{4} = \frac{3}{12}, \quad \frac{2}{3} = \frac{8}{12}$$

3. Add the fractions:

$$\frac{3}{12} + \frac{8}{12} = \frac{11}{12}$$

Answer:

$$\frac{11}{12}$$

9. Problemlösning (Word Problem):

Problem:

Anna har 3 äpplen. Hon ger bort 2 äpplen till sin vän. Hur många äpplen har Anna kvar?

Solution:

1. Total number of apples Anna has: 3
2. Number of apples given away: 2
3. Number of apples left:

$$3 - 2 = 1$$

Answer:

Anna has 1 apple left.

10. Funktioner (Functions):

Problem:

Om $f(x) = 2x + 3$, vad är $f(4)$?

Solution:

1. Substitute $x = 4$ into the function:

$$f(4) = 2(4) + 3 = 8 + 3 = 11$$

Answer:

$$f(4) = 11$$

Summary of Answers:

1. $x + 26$
 2. 40 cm^2
 3. 12
 4. 510 kr
 5. $\frac{3}{4}$
 6. $\frac{1}{2}$ or 50%
 7. Yes, all parrots can fly.
 8. $\frac{11}{12}$
 9. 1 apple
 10. $f(4) = 11$
-

These solutions should help you practice and understand common mathematical concepts and how they are solved in Swedish. Would you like to try additional problems or explore any concepts further?

I would like to try additional problems or explore all concepts further



Great! I'll provide additional problems for you to practice, as well as explanations and tips for exploring all the concepts further. Each problem will cover key topics like **algebra**, **geometry**, **fractions**, **probability**, **logical reasoning**, and **functions**. After the problems, I'll offer additional insights and practice tips.

Additional Problems to Practice

1. Algebra:

Problem:

Förenkla uttrycket:

$$5(x - 4) + 3(x + 2) - 7$$

2. Geometri:

Problem:

Beräkna omkretsen av en cirkel med radien 7 cm. Använd formeln för omkretsen:

$$C = 2\pi r$$

3. Talteori (Number Theory):

Problem:

Vad är den minsta gemensamma multipeln (MGM) för 12 och 18?

4. Procent (Percentage):

Problem:

En vara kostar 1500 kr. Under en reaperiod ger butiken 25% rabatt. Vad är det nya priset efter rabatten?

5. Bråk (Fractions):

Problem:

Subtrahera bråken:

$$\frac{7}{8} - \frac{3}{4}$$

6. Sannolikhet (Probability):

Problem:

En påse innehåller 5 röda kulor och 3 blå kulor. Om en kula dras slumpmässigt, vad är sannolikheten att den är röd?

7. Logiskt resonemang (Logical Reasoning):

Problem:

Om alla elever i klassen gillar matematik och alla elever i klassen också gillar fysik, vad kan vi då säga om eleverna?

8. Räkning med bråk (Working with Fractions):

Problem:

Multipliera bråken:

$$\frac{5}{9} \times \frac{3}{7}$$

9. Problemlösning (Word Problem):

Problem:

En bil kör 80 km/h. Hur lång tid tar det för bilen att köra 240 km?

10. Funktioner (Functions):

Problem:

Om $f(x) = 3x - 4$, vad är $f(2)$?

Solutions with Step-by-Step Explanation

1. Algebra:

Problem:

Förenkla uttrycket:

$$5(x - 4) + 3(x + 2) - 7$$

Solution:

1. Distribute the terms (sprid ut termerna):

$$5(x - 4) = 5x - 20 \quad \text{och} \quad 3(x + 2) = 3x + 6$$

2. Combine all terms:

$$5x - 20 + 3x + 6 - 7 = (5x + 3x) + (-20 + 6 - 7)$$

$$8x - 21$$

Answer:

$$8x - 21$$

2. Geometri:

Problem:

Beräkna omkretsen av en cirkel med radien 7 cm. Använd formeln för omkretsen:

$$C = 2\pi r$$

Solution:

1. Substitute the value of radius:

$$C = 2 \times \pi \times 7 = 14\pi$$

2. Use $\pi \approx 3.14$:

$$C = 14 \times 3.14 \approx 43.96 \text{ cm}$$

Answer:

$$43.96 \text{ cm}$$

3. Talteori (Number Theory):**Problem:**

Vad är den minsta gemensamma multipeln (MGM) för 12 och 18?

Solution:

1. Prime factorization for 12:

$$12 = 2^2 \times 3$$

Prime factorization for 18:

$$18 = 2 \times 3^2$$

2. The LCM is the product of the highest powers of all prime factors:

$$\text{MGM} = 2^2 \times 3^2 = 4 \times 9 = 36$$

Answer:

$$36$$

4. Procent (Percentage):**Problem:**

En vara kostar 1500 kr. Under en reaperiod ger butiken 25% rabatt. Vad är det nya priset efter rabatten?

Solution:

1. Calculate 25% of 1500 kr:

$$25\% \text{ av } 1500 = \frac{25}{100} \times 1500 = 375 \text{ kr}$$

2. Subtract the discount from the original price:

$$1500 - 375 = 1125 \text{ kr}$$

Answer:

$$1125 \text{ kr}$$

5. Bråk (Fractions):

Problem:

Subtrahera bråken:

$$\frac{7}{8} - \frac{3}{4}$$

Solution:

1. **Find a common denominator.** The LCD of 8 and 4 is 8.
2. Convert the fractions:

$$\frac{3}{4} = \frac{6}{8}$$

3. **Subtract the fractions:**

$$\frac{7}{8} - \frac{6}{8} = \frac{1}{8}$$

Answer:

$$\frac{1}{8}$$

6. Sannolikhet (Probability):

Problem:

En påse innehåller 5 röda kulor och 3 blå kulor. Om en kula dras slumpmässigt, vad är sannolikheten att den är röd?

Solution:

1. The total number of balls is:

$$5 \text{ (red)} + 3 \text{ (blue)} = 8$$

2. The probability of drawing a red ball is:

$$\text{Sannolikhet} = \frac{5}{8}$$

Answer:

$$\frac{5}{8}$$

7. Logiskt resonemang (Logical Reasoning):

Problem:

Om alla elever i klassen gillar matematik och alla elever i klassen också gillar fysik, vad kan vi då säga om eleverna?

Solution: Since all students like mathematics and physics, we can deduce that **all students in the class like both subjects**.

Answer:

Alla elever gillar både matematik och fysik.

8. Räkning med bråk (Working with Fractions):

Problem:

Multipliera bråken:

$$\frac{5}{9} \times \frac{3}{7}$$

Solution:

1. Multiply the numerators and the denominators:

$$\frac{5 \times 3}{9 \times 7} = \frac{15}{63}$$

2. Simplify the fraction:

$$\frac{15}{63} = \frac{5}{21}$$

Answer:

$$\frac{5}{21}$$

9. Problemlösning (Word Problem):

Problem:

En bil kör 80 km/h. Hur lång tid tar det för bilen att köra 240 km?

Solution:

1. Time = Distance / Speed

$$\text{Time} = \frac{240}{80} = 3 \text{ hours}$$

Answer:

3 hours

10. Funktioner (Functions):

Problem:

Om $f(x) = 3x - 4$, vad är $f(2)$?

Solution:

1. Substitute $x = 2$:

$$f(2) = 3(2) - 4 = 6 - 4 = 2$$

Answer:

$$f(2) = 2$$

Summary of Answers:

1. $8x - 21$
2. 43.96 cm
3. 36
4. 1125 kr
5. $\frac{1}{8}$
6. $\frac{5}{8}$
7. All students like both mathematics and physics.

8. $\frac{5}{21}$
 9. 3 hours
 10. $f(2) = 2$
-

Next Steps to Practice and Learn:

- **Review each concept carefully** to understand the rules and how they are applied.
- **Practice regularly:** Try different problems, varying the difficulty level to ensure you master each concept.
- **Seek additional resources:** Websites like Mattecetrum and Khan Academy offer practice and lessons in Swedish.
- **Focus on weak areas:** If any specific concept (e.g., fractions, probability, or functions) feels challenging, review the topic and solve related problems until you feel confident.

Let me know if you'd like more problems or explanations!