

PROMASI
CUTI PERTENGAHAN TAHUN 2009
SEKOLAH MENENGAH TEKNIK GERIK

STANDARD FORM

1. State $5.2 \times 10^5 - 4.2 \times 10^4$ in standard form.
Answer:

2. State $6.7 \times 10^{-3} + 3.6 \times 10^{-2}$ in standard form.
Answer:

3. Round off 0.0000687 to 2 significant figures.
Answer:

4. A cylinder has a volume of 67.8 m^3 and a radius of 4 m. calculate the height of the cylinder. State your answer correct to 2 significant figures.
Answer:

5. Express $\frac{0.0667 \times 50000}{25}$ in standard form.
Answer:

6. Give the value of $\frac{38028}{2 \times 10^3}$ in standard form.
Answer:

QUADRATIC EXPRESSIONS AND EQUATIONS

1. Factorise $12x^2 - 36x - 24$

Answer:

2. Solve the equation $\frac{x^2 - 5}{4} = x$

Answer:

3. Solve the equation $(x + 3)(x - 1) = 4x$

Answer:

4. Solve $x^2 + 4x - 3 = 9$

Answer:

5. Solve $\frac{4}{x + 11} = \frac{x}{x + 2}$

Answer:

6. The length of a rectangle is $(x + 7)$ cm and its breadth is x cm. The total area of the rectangle is 30 cm^2 . Calculate the length.

SETS

1. Given the universal set $\xi = \{a,b,c,d,e,f,g,h\}$. $A = \{a,b,c,d,e\}$, $B = \{a,b,e,g\}$ and $C = \{c,e,g,h\}$. Find
- $A \cup B$
 - $A \cap C'$
 - $(A \cap B)'$
 - $(A \cup B)'$

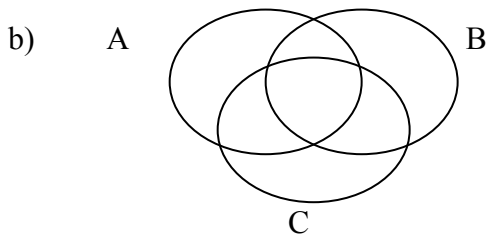
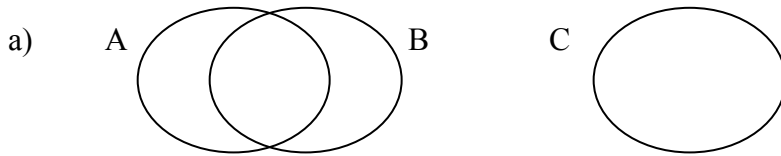
Answer:

-
-
-
-

2. The Venn diagram in the answer space shows sets A, B and C. On the diagram provided in the answer spaces, shade

- the set $A \cap B'$,
- the set $A \cup B \cap C'$.

Answer:



3. Given $n(\xi) = 38$, $n(A) = 18$, $n(B) = 22$ and $n(A \cap B) = 6$. Find $n(A \cup B)$.

Answer:

MATHEMATICAL REASONING

- 1. a) Determine whether the sentences given below are statements .
 - i) a triangle is made up of 3 lines only
 - ii) express 9810 in standard form
 - iii) $3 \times 23 = 69$
- b) Determine whether the statements given are true or false.
 - i) the sum of 3 and 8 is 24
 - ii) $\sqrt[3]{125} - 2 = 3$

Answer:

- a) i)
- ii)
- iii)
- b) i)
- ii)

- 2. Construct a true statement using the quantifier “all” or “some”, given an object its property.
 - a) Object : multiples of 6
Property : divisible by 5
 - b) object : square
property : has 4 equal sides

Answer:

- a).....
- b).....

- 3. Write two implications from the following statements.
“ y is a prime number if and only if is divisible by itself “

Answer:

- Implication 1:.....
- Implication 2:.....

- 4. Complete the argument.
Premise 1: if $x = 2$, then $x + 3 = 5$
Premise 2: $x = 2$
Conclusion:.....

Answer:

- Conclusion:.....

STATISTICS

1. The data in Diagram 1 shows the masses, in kg, of suitcases for a group of tourists. Each tourist has one suitcases.

27	10	22	28	21	14	29	25
29	18	22	13	20	21	24	27
27	25	16	19	16	24	26	27
29	19	33	25	23	24	26	31

Diagram 1

- a) Based on the data in Diagram 1 and by using a class of 3, complete table 1 provided in the answer space.
- b) Based on the table in (a), calculate the estimated mean mass of the suitcases.
- c) By using a scale of 2 cm to 3 kg on the x- axis and 2 cm to 1 suitcases on the y – axis, draw the histogram for the data.
- d) State one information obtained on the histogram in (c).

Answer:

a)

Class interval	Frequency	Midpoint
10 – 12		
13 - 15		

Table 1

b)

c) refer graph

d) _____

