

WAKISO DISTRICT JOINT EXAMINATIONS BOARD
(WAKISO MAIN, KIRA, MAKINDYE AND NANSANA MUNICIPALITY)
PRIMARY SEVEN INTERNAL ASSESSMENT

2023

MATHEMATICS

Time Allowed: 2 hours 30 minutes

Index No.

Random No.						Personal No.			

Candidate's Name: IR. WALTER

Candidate's signature: *IR. WALTER*

School Name: 0775232978/0752627380

District/Municipality: KAMPALA

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO

Read the following Instructions Carefully:

1. This paper has two sections A and B.
2. Section A has 20 questions (40 marks).
3. Section B has 12 questions (60 marks).
4. Answer all questions. All the working for both sections A and B must be shown in spaces provided.
5. All working must be done using a blue or black ball point pen or ink. Any work done in pencil other than graphs and diagrams will not be marked.
6. No calculators are allowed in the examination room.
7. Unnecessary changes and crossings in your work and handwriting that cannot easily be read may lead to loss of marks.
8. Do not write anything in the boxes indicated "For examiners' use only"

FOR EXAMINERS' USE ONLY

FOR EXAMINERS' USE ONLY		
Qn. No	Marks	EXR'S NO.
1-5		
6-10		
11-15		
16-20		
21-22		
23-24		
25-26		
27-28		
29-30		
31-32		
TOTAL		

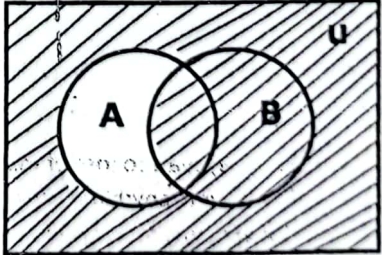
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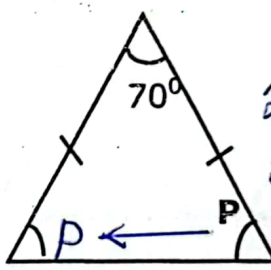
WA.D.E.B

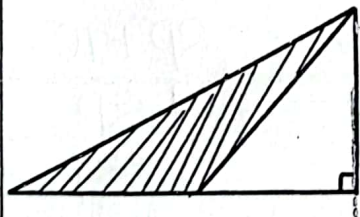
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SECTION A (40 MARKS)

Answer all questions in this section.

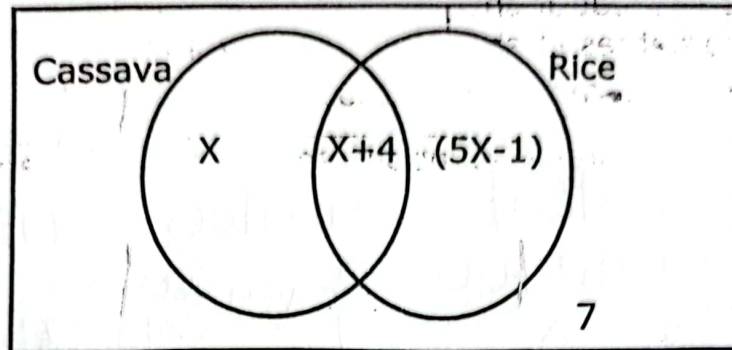
<p>1. Add: $3.7 + 2.3$</p> $\begin{array}{r} 3.7 \\ + 2.3 \\ \hline 6.0 \end{array}$	<p>2. Write 49 as a Roman Numeral.</p> $49 = 40 + 9$ $49 = XLIX$
<p>3. Subtract: $\frac{1}{2} - \frac{1}{4}$</p> $\frac{1}{2} - \frac{1}{4} = \frac{2-1}{4}$ $= \frac{1}{4}$	<p>4. Find the next numbers in the sequence.</p> <p>1, 3, 6, 10, 15, <u>21</u>, <u>28</u></p> <p>$\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$ $+2 +3 +4 +5 +6 +7$</p>
<p>5. Write eighty four thousand forty eight in figures.</p> $\begin{array}{r} 84000 \\ + 48 \\ \hline 84,048 \end{array}$	<p>6. Describe the shaded region in the Venn diagram below.</p>  <p>$(A - B)'$ $(\text{Set A only})'$</p>

<p>7. Factorize completely: $4ap - 2a$</p> $\begin{array}{r} 2 \\ \cancel{4}ap - \cancel{2}a \\ \hline 2a \quad 2a \\ \hline 2a(2p-1) \end{array}$	<p>8. Simplify: $-9 - +4 =$</p> $\begin{array}{r} -9 - (+4) \\ -9 - 4 \\ \hline -13 \end{array}$
<p>9. Show twenty minutes to three o'clock on the face shown.</p> 	<p>10. Given that $a=2$, $b=-4$. Find the value of $3a - b$.</p> $\begin{array}{l} (3 \times a) - b \\ (3 \times 2) - (-4) \\ 6 - (-4) \\ 6 + 4 \end{array} = \underline{\underline{+10}}$
<p>11. If today is Thursday, what day of the week will it be 102 days from now?</p> $\begin{array}{l} \text{Day} + \text{Days} = - \pmod{7} \\ \text{Thur} + 102 = - \pmod{7} \\ 4 + 102 = \frac{106}{7} \text{ r } 1 \pmod{7} \\ \underline{1 \pmod{7}} \end{array}$ <p>It will be Monday</p>	<p>12. Find the size of the angle marked P in the figure below.</p>  $\begin{array}{l} P + P + 70^\circ = 180^\circ \text{ (int. \angle)} \\ 2P + 70^\circ = 180^\circ \\ 2P + 70^\circ - 70^\circ = 180^\circ - 70^\circ \\ \frac{2P}{2} = \frac{110^\circ}{2} \\ \underline{P = 55^\circ} \end{array}$
<p>13. Round off 246.8 to the nearest whole number.</p> $\begin{array}{r} \text{H} \quad \text{T} \quad \text{O} \quad \text{THS} \\ 2 \quad 4 \quad 6 \quad 8 \\ + \quad \quad 1 \quad 0 \\ \hline 2 \quad 4 \quad 7 \end{array}$ <p>$\therefore 246.8 \approx 247$</p>	<p>14. Subtract: $1010_{\text{two}} - 111_{\text{two}}$</p> $\begin{array}{r} 1010_{\text{two}} \\ - 111_{\text{two}} \\ \hline 0011_{\text{two}} \end{array}$

<p>15. When $\frac{1}{9}$ of the pupils in a class are absent, 32 pupils are present. Find the number of pupils in the class.</p> <table border="1"><thead><tr><th>Absent</th><th>Present</th></tr></thead><tbody><tr><td>$\frac{1}{9}$</td><td>$\frac{8}{9}$</td></tr><tr><td>$\frac{1}{9} \rightarrow 32$ pupils</td><td>$\frac{8}{9} \rightarrow 32 \times \frac{9}{8} = 36$ pupils</td></tr></tbody></table>	Absent	Present	$\frac{1}{9}$	$\frac{8}{9}$	$\frac{1}{9} \rightarrow 32$ pupils	$\frac{8}{9} \rightarrow 32 \times \frac{9}{8} = 36$ pupils	<p>16. A school bursar deposited a bundle of twenty thousand shilling notes numbered from BR2854600 to BR2854799 consecutively. How much money did the bursar deposit?</p> <p>No of notes = (Last - First) + 1</p> $\begin{array}{r} \text{BR2854799} \\ - \text{BR2854600} \\ \hline 199 + 1 = 200 \text{ notes} \end{array}$ <p>Amount</p> $\begin{array}{r} \text{Sh } 20,000 \times 200 \\ \hline \text{Sh } 4,000,000 \end{array}$
Absent	Present						
$\frac{1}{9}$	$\frac{8}{9}$						
$\frac{1}{9} \rightarrow 32$ pupils	$\frac{8}{9} \rightarrow 32 \times \frac{9}{8} = 36$ pupils						
<p>17. Express 750 millilitres to litres.</p> $\begin{array}{l} 1000\text{ml} \Rightarrow 1\text{L} \\ 750\text{ml} = \left(\frac{750\text{ml}}{1000\text{ml}} \right) \text{ litres} \end{array}$	$\begin{array}{l} 0.075 \text{ millilitres or} \\ \frac{3}{4} \text{ litres} \end{array}$						
<p>18. The area of the shaded triangle is 20cm^2. If the height of the triangle is 5cm, find the length of the base of the shaded triangle.</p> 	$\frac{B \times H}{2} = \text{Area}$ $\frac{1}{2} \times b \times 5\text{cm} = 20\text{cm}^2 \times 2$ $\frac{5b\text{cm}}{2} = \frac{40\text{cm}^2 \times 2}{5\text{cm}}$ $b = 8\text{cm}$						
<p>19. Find the median of the following integers. 4, -1, 2, 0, -4</p> <p>Median = <u>-4, -1, 0, 2, 4</u></p> <p>Median = <u>0</u></p>	<p>20. Simplify: $3^2 \times 3^5$</p> $\begin{array}{l} 3^2 \times 3^5 \\ 3^{(2+5)} \\ 3^7 \end{array}$						

SECTION B (60 MARKS)

21. The venn diagram below shows the number of farmers who grow different crops in a community farm.



- (a) If 24 farmers grow cassava, find the value of X .

$$X + X + 4 = 24$$

$$2X + 4 = 24$$

$$2X + 4 - 4 = 24 - 4$$

$$2X = 20$$

$$\frac{2X}{2} = \frac{20}{2}$$

$$X = 10$$

(3mrks)

- (b) How many farmers grow only one crop?

$$(X + 5X) - 1$$

$$6X - 1$$

$$(6 \times 10) - 1$$

$$(60 - 1) \text{ farmers}$$

$$59 \text{ farmers}$$

(2mrks)

22. Mukasa has two children, Kigongo and Kityo. If Kigongo is half his age, Kityo is a third his age and the total age of the two children is 30 years.

- (a) How old is Mukasa?

Let Mukasa's age be M

Kigongo Kityo Total

$$\frac{1}{2}(M) \quad \frac{1}{3}(M) \quad 30$$

$$\frac{M}{2} + \frac{M}{3} = 30$$

$$\frac{2}{2} \frac{3M}{3} + \frac{2}{2} \frac{M}{3} = 30$$

$$3M + 2M = 30$$

$$\frac{5M}{6} = 30 \times 6$$

$$5M = 180$$

$$\frac{5M}{5} = \frac{180}{5}$$

$$M = 36$$

- (b) How old is the younger child?

$$\frac{1}{3} \text{ of } M$$

$$\left(\frac{1}{3} \times \frac{12}{36} \right) \text{ years}$$

$$(1 \times 12) \text{ years}$$

$$12 \text{ years old}$$

(1mrk)

Mukasa is 36 years old

23. Shanitah went to the market and bought the following items.

- (i) $3\frac{1}{2}$ Kg of rice in half kg packets at shs. 1,900 @ pack
- (ii) 3kgs of meat at shs. 14,000 @ kg,
- (iii) 12 tomatoes at shs. 500 for every 4 tomatoes,
- (iv) $2\frac{1}{2}$ Kg of sugar at shs. 12,500/=

(a) Calculate the total amount she spent on all the items.

Rice	Meat	Tomatoes	Sugar	Total amount
1kg = sh1900 x 2 sh3800	sh14000	$\frac{3}{2} \times \text{sh500}$		sh42000
3k = $\frac{3}{2} \times \text{sh3800}$	X 3	#1	sh12500	sh13300
7 x sh1900	sh42000	3 x sh500		sh12500
sh13,300		sh1500		sh1500
				sh69300

(5mrks)

(b) If she was given change of shs.700, how much money did she take to the shop?

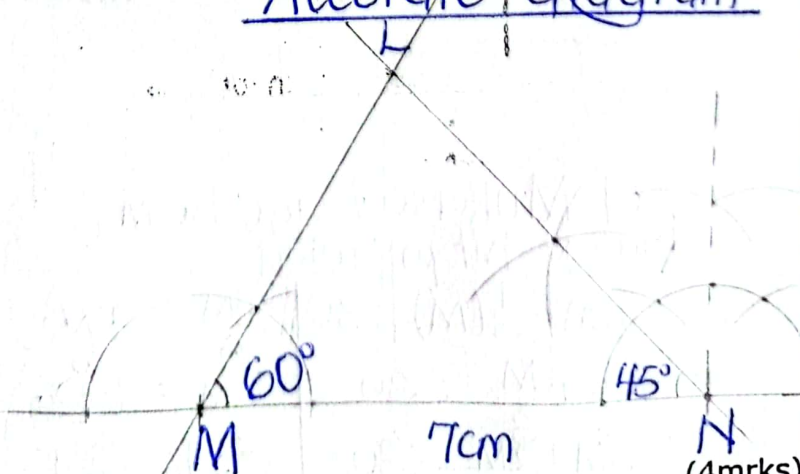
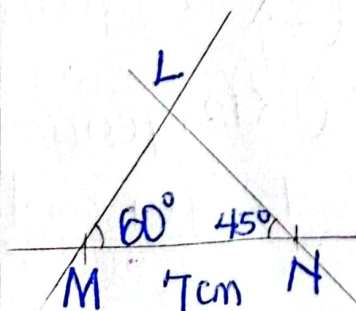
$$\begin{array}{r}
 \text{sh } 69,300 \\
 + \text{sh } 700 \\
 \hline
 \text{sh } 70,000
 \end{array}$$

(2mrks)

24. Using a ruler, pencil and a pair of compasses only, construct a triangle LMN. Where angle LMN = 60° , line MN = 7cm, and angle MNL = 45° in the space below.

Sketch

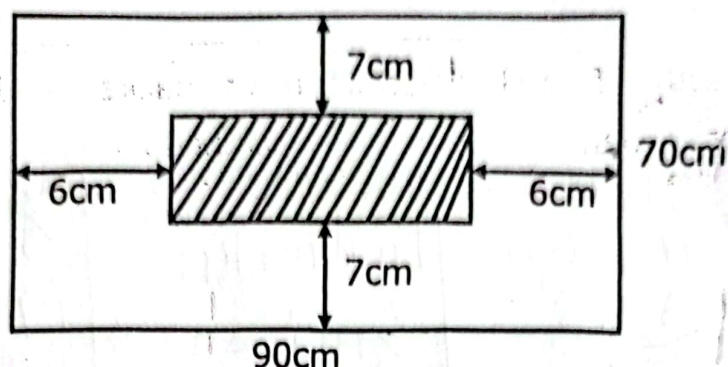
Accurate diagram



(4mrks)

(b)	Measure line LM <u>LM = 5.2cm</u> <div>(1mrk)</div>																								
25.	<p>A tailor used $\frac{3}{8}$ of a roll of cloth in making jackets and $\frac{2}{5}$ of the remainder in making trousers. He was then left with 9 metres. How long was the roll of the cloth at first?</p> <table><tr><th>Jacket</th><th>Trousers</th><th>Fraction left</th><th></th></tr><tr><td>$\frac{3}{8}$</td><td>$\frac{2}{5} \times \frac{5}{8}$</td><td>$\frac{5}{8} - \frac{1}{4} = \frac{5-2}{8}$</td><td>$\frac{3}{8} \rightarrow 9\text{metres}$</td></tr><tr><td>Remainder</td><td>$\frac{2}{8} = \frac{1}{4}$</td><td>$\frac{3}{8}$</td><td>$(9 \div \frac{3}{8})\text{metre}$</td></tr><tr><td>$\frac{8}{8} - \frac{3}{8} = \frac{5}{8}$</td><td></td><td></td><td>$(4 \times \frac{8}{8})\text{metre}$</td></tr><tr><td>$\frac{5}{8}$</td><td></td><td></td><td>$(3 \times 8)\text{metre}$</td></tr><tr><td></td><td></td><td></td><td>24metre (5mrks)</td></tr></table>	Jacket	Trousers	Fraction left		$\frac{3}{8}$	$\frac{2}{5} \times \frac{5}{8}$	$\frac{5}{8} - \frac{1}{4} = \frac{5-2}{8}$	$\frac{3}{8} \rightarrow 9\text{metres}$	Remainder	$\frac{2}{8} = \frac{1}{4}$	$\frac{3}{8}$	$(9 \div \frac{3}{8})\text{metre}$	$\frac{8}{8} - \frac{3}{8} = \frac{5}{8}$			$(4 \times \frac{8}{8})\text{metre}$	$\frac{5}{8}$			$(3 \times 8)\text{metre}$				24metre (5mrks)
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			24metre (5mrks)																						
26.	<p>Workout: $\frac{1.8 \times 4.8}{0.8 \times 5.4}$</p> $\left(\frac{18}{10} \times \frac{48}{10}\right) \div \left(\frac{8}{10} \times \frac{54}{10}\right)$ $\frac{18}{10} \times \frac{48}{10} \times \frac{10}{8} \times \frac{10}{54}$ $\frac{1 \times 2 \times 1 \times 1}{1 \times 1 \times 1 \times 1} = 2$ <p>(3mrks)</p> <p>(b) Express 0.1333.....as a fraction in its lowest terms</p> <p>Let $0.1\bar{3} \dots$ be K</p> $K = 0.1\bar{3} \dots$ $10K = 1.\bar{3} \dots$ $10K = 1.333 \dots$ $10 \times 10K = 13.333$ $100K = 13.333$ $-10K \quad 1.333$ $190K = 12 \neq 2$ $\frac{12}{90} = \frac{2}{15}$ <p>(3mrks)</p>																								
27.	<p>Moses and Ali went on a journey. Moses started at 6:00a.m and walked the distance at 5km/hr. Ali cycled at 15km/hr. They arrived together at 11:00a.m. At what time did Ali start his journey?</p> <table><tr><th>Moses time</th><th>Moses Distance</th><th>Ali's time</th><th>Ali's starting time</th></tr><tr><td>HRS MIN</td><td>$D = S \times T$</td><td>$T = \frac{D}{S}$</td><td>HRS MIN</td></tr><tr><td>11 00</td><td>$D = 5\text{km} \times 5\text{hrs}$</td><td>$T = \frac{25\text{km}}{15\text{km/hr}}$</td><td>11 00</td></tr><tr><td>- 6 00</td><td>$D = (5 \times 5)\text{km}$</td><td>$T = 1\frac{2}{3}\text{hours}$</td><td>- 1 40</td></tr><tr><td>5 00</td><td>$D = 25\text{km}$</td><td></td><td>9 20</td></tr><tr><td>5 hours</td><td></td><td></td><td>At 9:20 (5mrks)</td></tr></table>	Moses time	Moses Distance	Ali's time	Ali's starting time	HRS MIN	$D = S \times T$	$T = \frac{D}{S}$	HRS MIN	11 00	$D = 5\text{km} \times 5\text{hrs}$	$T = \frac{25\text{km}}{15\text{km/hr}}$	11 00	- 6 00	$D = (5 \times 5)\text{km}$	$T = 1\frac{2}{3}\text{hours}$	- 1 40	5 00	$D = 25\text{km}$		9 20	5 hours			At 9:20 (5mrks)
Moses time	Moses Distance	Ali's time	Ali's starting time																						
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- 6 00	$D = (5 \times 5)\text{km}$	$T = 1\frac{2}{3}\text{hours}$	- 1 40																						
5 00	$D = 25\text{km}$		9 20																						
5 hours			At 9:20 (5mrks)																						

28. A piece of cloth is laid on a table 90cm long and 70cm wide as shown in the figure below. The area covered by the piece of cloth is shaded.



- 28 (a) Find the length and width of the piece of cloth.

Length	Width
$90\text{cm} - (6+6)\text{cm}$	$70\text{cm} - (7+7)\text{cm}$
$90\text{cm} - 12\text{cm}$	$70\text{cm} - 14\text{cm}$
<u>78cm</u>	<u>56cm</u>

(2mrks)

- (b) Find the area of the table which is not covered with a piece of cloth.

Area (Table)	Area (cloth)
$A = L \times W$	$A = L \times W$
$A = 90\text{cm} \times 70\text{cm}$	$A = 78\text{cm} \times 56\text{cm}$
<u>$A = 6300\text{cm}^2$</u>	<u>$A = 4368\text{cm}^2$</u>
Area (shaded parts)	
Area = 6300cm^2	
$- 4368\text{cm}^2$	
<u>1932cm^2</u> (3mrks)	

29. A man got a loan of sh. 120,000 from a Savings and Credit Cooperative Society at a simple interest rate of 8% per annum. He paid an interest of sh. 7,200 on the loan. For how long was the loan?

$$\text{Time} = \frac{100 I}{P \times R}$$

$$\text{Time} = \frac{100 \times \text{sh } 7200}{\text{sh } 120,000 \times 8\%}$$

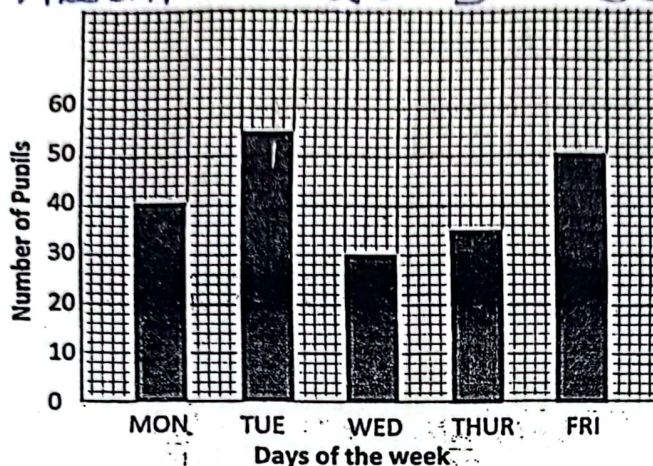
$$\text{Time} = \frac{3}{4} \text{ years}$$

(3mrks)

30. The graph below shows the attendance of P.7 pupils last week in Kagera primary school. Use it to answer the questions that follow. If it registered 60 pupils in the primary seven class.

Days of the week	Mon	Tue	Wed	Thur	Fri
No. pupils	40	55	30	35	50

Absent 20 5 30 25 10



- (a) How many pupils were present on Thursday?

35 pupils

(1mrk)

- (b) Find the difference between the highest and the lowest attendance.

$(55 - 30)$ pupils

25 pupils

(1mrk)

- (c) How many pupils were absent on Tuesday?

$(60 - 55)$ pupils

5 pupils

(1mrk)

- (d) Find the average number of pupils absent in that week.

Average = $\frac{\text{sum of data}}{\text{No of data}}$

Average = $\frac{20 + 5 + 30 + 25 + 10}{5}$

Average = $\frac{90}{5}$

Average = 18 pupils (3mrks)

31. Solve for n: (a) $34n = 201$ _{three}

$$\begin{array}{r|l} n & 0 \\ 3 & 4 \end{array} = \begin{array}{r|l} 3^2 & 3^1 & 3^0 \\ 2 & 0 & 1 \end{array}$$

$$(3 \times n) + (4 \times 1) = (2 \times 3 \times 3) + (0 \times 3) + (1 \times 1)$$

$$3n + 4 = 18 + 0 + 1$$

$$3n + 4 = 19$$

$$3n + 4 - 4 = 19 - 4 \quad n = 5$$

$$\begin{array}{r} 13n \\ 3 \end{array} = \begin{array}{r} 155 \\ 3 \end{array} \quad (2\text{mrks})$$

(b) Simplify: $(-3 - 9) - (-7)$

$$\begin{array}{r} (-3 - 9) - (-7) \\ -2 \\ (-3 + 9) + 7 \\ -2 \\ 6 + 7 \\ -2 \\ 11 \end{array} \quad \begin{array}{r} 6r1 \\ +3 \\ -2 \\ -6\frac{1}{2} \end{array}$$

(3mrks)

32. The table below shows how adverts are charged in a news paper per week.

SIZE	BLACK AND WHITE	FUL COLOUR
Full page (inside)	1,145,300/=	1,710,000/=
Half page	572,650/=	875,000/=
Quarter page	286,000/=	438,000/=
Front page	1,140,000/=	1,631,000/=
Back page	280,000/=	610,000/=
20% DISCOUNT EVERY AFTER 7 DAYS		

What would be the cost of advertising a full page in black and white for 3 weeks?

$100\% - 20\% = 80\%$

$$\left(\frac{80}{100} \times \text{Sh } 1,145,300 \right) \times 3$$

$$(80 \times \text{Sh } 11453) \times 3$$

$$\text{Sh } 916,240 \times 3$$

$$\text{Sh } 2,748,720$$

(4mrks)

END