



Quiz

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MC170200830: Kainat Ashfaq

Time Left

68

sec(s)

MTH633:Quiz No. 2

Quiz Start Time: 01:30 PM, 24 August 2018

Question # 10 of 10 (Start time: 01:35:47 PM, 24 August 2018)

Total Marks: 1

If N is a normal subgroup of $(G, \cdot)$, the set of cosets $G/N = \{Ng | g \in G\}$ forms a group $(G/N, \cdot)$, where the operation is defined by $(Ng_1) \cdot (Ng_2) = N(g_1 \cdot g_2)$. This group is called the quotient group or factor group of G by N .

Select the correct option



True



False

Click to Save Answer & Move to Next Question

Question # 6 of 10 (Start time: 07:02:16 PM, 18 August 2018) Total Marks: 1

Let $(G, \cdot)$ be a group with subgroup H . For $a, b \in G$, we say $a \equiv b \pmod H$ if and only if $ab^{-1} \in H$.

Select the correct option Reload Math Equations

☒	True
☐	False

Click to Save Answer & Move to Next Question

Let ϕ be a homomorphism of a group G into a group G' .
If H is a subgroup of G , then $\phi[H]$ is a subgroup of G' .

Select the correct option

Reload Math Equations

☒	True
☐	False

Click to Save Answer & Move to Next Question

MC170202886: Aqsa Zunaira

Time Left 81 sec(s)

MTH633:Quiz No. 2

Quiz Start Time: 06:58 PM, 18 August 2018

Question # 7 of 10 (Start time: 07:02:35 PM, 18 August 2018)

Total Marks: 1

The relation

$$a \equiv b$$

mod H is an equivalence relation on G.

Select the correct option

Reload Math Equations

☒	True
☐	False

Click to Save Answer & Move to Next Question

Time Left
83
sec(s)

Quiz Start Time: 07:19 PM, 18 August 2018

MC170202458: Aneeta Shaheen

MTH633:Quiz No. 2

Question # 4 of 10 (Start time: 07:19:59 PM, 18 August 2018)

Total Marks: 1

The group G is a copy of the group H , if the function

$$f : G \rightarrow H$$

is -----

Select the correct option

Reload Math Equations



homomorphic



isomorphic



onto



bijective

Click to Save Answer & Move to Next Question

Question # 4 of 10 (Start time: 12:03:39 PM, 23 August 2018)

Let ϕ be a homomorphism of a group G into a group G' .
If H is a subgroup of G , then $\phi[H]$ is a subgroup of G' .

Select the correct option

☒	True
☐	False

Question # 7 of 10 (Start time: 12:05:32 PM, 23 August 2018)

Let ϕ be a homomorphism of a group G into a group G' .
If K' is a subgroup of G' , then $\phi^{-1}[K']$ is a subgroup of G .

Select the correct option

☐	True
☐	False



Question # 6 of 10 (Start time: 12:04:50 PM, 23 August 2018)

Let $(G, \cdot)$ be a group with subgroup H . For $a, b \in G$, we say $a \equiv b \pmod{H}$ if and only if $ab^{-1} \in H$.

Select the correct option

☐ True☐ False

Question # 5 of 10 (Start time: 12:04:15 PM, 23 August 2018)

If N is a normal subgroup of a group G , the left cosets of N in G are the same as the right cosets of N in G .

Select the correct option

True



False



$(\mathbb{Z}_n, +)$ is a cyclic group with 1 as a generator.

Select the correct option [Reload Math Equations](#)

☒	True
☐	False

[Click to Save Answer & Move to Next Question](#)

Question # 1 of 10 (Start time: 12:02:01 PM, 23 August 2018)

Let φ be a homomorphism function from group $(G, *)$ to group $(G', \cdot)$. Then, $(\text{Ker } \varphi, *)$ is a normal subgroup of $(G, *)$.

Select the correct option

☐	True
☐	False



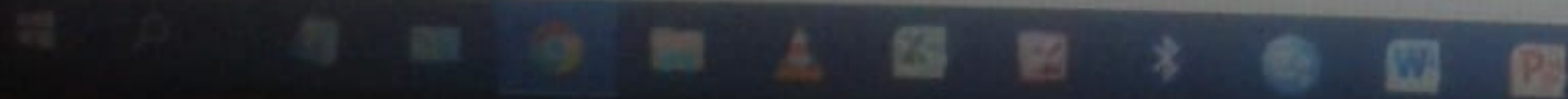
$Hg = gH$, for all $g \in G$, if and only if H is a normal subgroup of G .

Select the correct option

True



False



Question # 5 of 10 (Start time: 07:20:10 PM, 18 August 2018)

Total Marks: 1

Let H be a subgroup of a group G . Then $(aH)(bH) = a(bH)$ is not always true when G is non-abelian.

Select the correct option

☐	False
☒	True

Click to Save Answer & Move to Next Question

Let ϕ be a homomorphism of a group G into a group G' .
If K' is a subgroup of G' , then $\phi^{-1}[K']$ is a subgroup of G .

Select the correct option

Reload Math Equations

☒	True
☐	False

Click to Save Answer & Move to Next Question

Question # 3 of 10 (Start time: 12:03:06 PM, 23 August 2018)

Let

$$f : G \rightarrow H$$

be a homomorphism, then $f(e_G) = \text{--- --}$ for e_G and e_H are identities of G and H respectively.

Select the correct option

☐	e_G
☐	e_H



Let φ be a homomorphism function from group $(G, *)$ to group $(G', \cdot)$. Then, $(\text{Ker } \varphi, *)$ is a normal subgroup of $(G, *)$.

Select the correct option

Reload Math Equations

☒	True
☐	False

Click to Save Answer & Move to Next Question

Question # 9 of 10 (Start time: 12:06:27 PM, 23 August 2018)

The converse of Lagrange's theorem holds for abelian groups.

Select the correct option

☐	True
☐	False

MC170202458: Aneeta Shaheen

Time Left 81 sec(s)

MTH633:Quiz No. 2

Quiz Start Time: 07:19 PM, 18 August 2018

Question # 7 of 10 (Start time: 07:20:46 PM, 18 August 2018)

Total Marks: 1

$Hg = gH$, for all $g \in G$, if and only if H is a normal subgroup of G .

Select the correct option

Reload Math Equations

☒	True
☐	False

Click to Save Answer & Move to Next Question

Question # 8 of 10 (Start time: 12:06:06 PM, 23 August 2018)

 $(\mathbb{Z}_n, +)$ is a cyclic group with 1 as a generator.

Select the correct option

True



False



MC170202886: Aqsa Zunaira

MTH633:Quiz No. 2

Time Left 73 sec(s)

Quiz Start Time: 06:58 PM, 18 August 2018

Question # 8 of 10 (Start time: 07:02:47 PM, 18 August 2018)

Total Marks: 1

If N is a normal subgroup of a group G , the left cosets of N in G are the same as the right cosets of N in G .

Select the correct option

- ☒ True
- ☐ False

Click to Save Answer & Move to Next Question

Let

$$\phi : G \rightarrow H$$

be an isomorphism, then if G is abelian, then H is not abelian.

Select the correct option [Reload Math Equations](#)

☐	True
☒	False

[Click to Save Answer & Move to Next Question](#)

Question # 1 of 10 (Start time: 07:48:23 PM, 18 August 2018) Total Marks: 1

Let

$$f : G \rightarrow H$$

be a homomorphism, then $f(e_G) = \text{---}$ for e_G and e_H are identities of G and H respectively.

Select the correct option Reload Math Equations

- | | |
|----------------------------------|-------|
| ☐ | e_G |
| ☒ | e_H |

Click to Save Answer & Move to Next Question

The converse of Lagrange's theorem holds for abelian groups.

Select the correct option

- ☒ True
- ☐ False

Click to Save Answer & Move to Next Question

Question # 3 of 10 (Start time: 07:32:09 PM, 18 August 2018) Total Marks: 1

Any subgroups of Abelian group G are not normal subgroups of G .

- Select the correct option
- ☒ False
- ☐ True

Click to Save Answer & Move to Next Question

If N is a normal subgroup of a group G , the left cosets of N in G are the same as the right cosets of N in G .

Select the correct option

- | | |
|----------------------------------|-------|
| ☒ | True |
| ☐ | False |

Click to Save Answer & Move to Next Question

MC170202886: Aqsa Zunaira

Time Left 58 sec(s)

MTH633:Quiz No. 2

Quiz Start Time: 06:58 PM, 18 August 2018

Question # 2 of 10 (Start time: 06:58:47 PM, 18 August 2018)

Total Marks: 1

If N is a normal subgroup of $(G, \cdot)$, the set of cosets $G/N = \{Ng \mid g \in G\}$ forms a group $(G/N, \cdot)$, where the operation is defined by $(Ng_1) \cdot (Ng_2) = N(g_1 \cdot g_2)$. This group is called the quotient group or factor group of G by N .

Select the correct option

☒	True
☐	False

Click to Save Answer & Move to Next Question

MC170202458: Aneeta Shaheen

MTH633:Quiz No. 2

Time Left 79 sec(s)

Quiz Start Time: 07:19 PM, 18 August 2018

Question # 6 of 10 (Start time: 07:20:27 PM, 18 August 2018)

Total Marks: 1

Any subgroups of Abelian group G are not normal subgroups of G .

Select the correct option

- ☒ False
- ☐ True

Click to Save Answer & Move to Next Question

Let

$$\phi : G \rightarrow H$$

be a homomorphism, then $\phi(a^{-1}) = \phi(a)^{-1}$ for $a \in G$.

Select the correct option

Reload Math Equations

☒	True
☐	False

Click to Save Answer & Move to Next Question

Question # 9 of 10 (Start time: 07:03:07 PM, 18 August 2018) Total Marks: 1

If N is a normal subgroup of a group G , the left cosets of N in G are not the same as the right cosets of N in G

Select the correct option

☒	False
☐	True

Click to Save Answer & Move to Next Question

The quotient group R/Z is isomorphic to the circle group

$$W = \{ e^{i\theta} \in \mathbb{C} \mid \theta \in \mathbb{R} \}.$$

Select the correct option

Reload Math Equations

☒	True
☐	False

Click to Save Answer & Move to Next Question

Question # 1 of 10 (Start time: 06:58:05 PM, 18 August 2018)

Total Marks: 1

The group G is a copy of the group H , if the function

$$f : G \rightarrow H$$

is -----

Select the correct option

Reload Math Equations

- | | |
|-----------------------|-------------|
| ☐ | homomorphic |
| ☐ | isomorphic |
| ☐ | onto |
| ☐ | bijective |

Click to Save Answer & Move to Next Question

MC170202886: Aqsa Zunaira

Time Left 77 sec(s)

MTH633:Quiz No. 2

Quiz Start Time: 06:58 PM, 18 August 2018

Question # 1 of 10 (Start time: 06:58:05 PM, 18 August 2018)

Total Marks: 1

The group G is a copy of the group H, if the function

$$f : G \rightarrow H$$

is -----

Select the correct option

Reload Math Equations

- ☐ homomorphic
- ☐ isomorphic
- ☐ onto
- ☐ bijective

Click to Save Answer & Move to Next Question