

# Midterm Exam Review

Written Portion

Name:

Date:

Period:

Read directions carefully.

Use the screenshot at the right to complete the questions on this page.

1. Which of the following are not Vector3 objects?  
(choose all that apply)

- Position
- TimeMultiplier
- Rotation
- Radius
- Scale
- HourHand
- Prefab

2. Name one variable that could be of type *float*:

\_\_\_\_\_

3. How many scripts are attached to the Clock?

- 0
- 1
- 2
- 3
- 4

4. Which variable will most likely cause an exception or error?

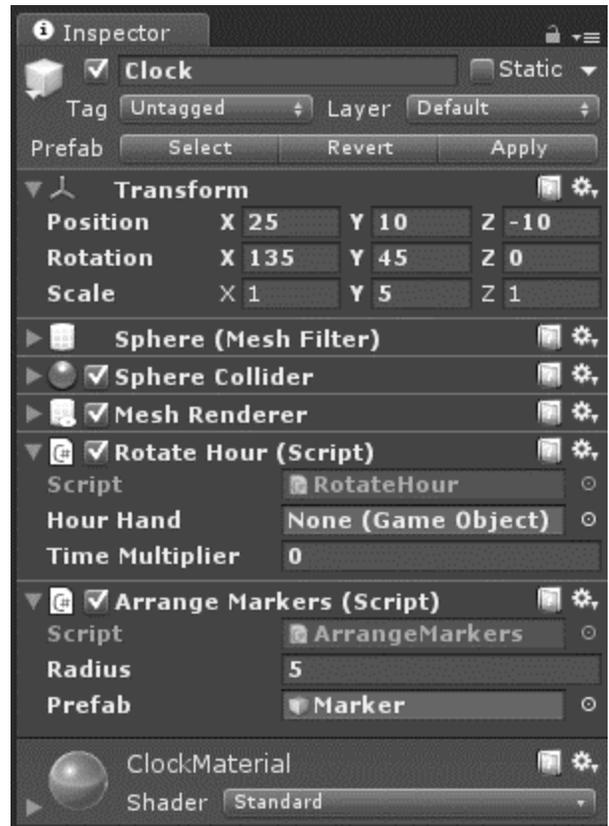
\_\_\_\_\_

5. Which of these best describes the clock based on the screenshot?

- The clock is longer than normal
- The clock is upside down
- The clock is centered at the origin
- The clock is taller than normal

6. Which of these must be a public variable?

- HourHand
- TimeMultiplier
- Radius
- Prefab
- All of the above
- None of the above



7. Which of these are NOT member functions of a MonoBehaviour script?

- Start()
- Update()
- Repeat()
- FixedUpdate()

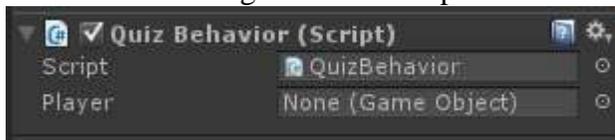
8. Fill in the blank so the code can compile.

```
int counter = 0;  
  
_____ = counter + 1;
```

9. What is the position of the current object after this code runs?

```
Vector3 current_location = new Vector3(10, -3, 5);  
Vector3 thrust = new Vector3(1, 0, 1);  
this.transform.position = current_location + thrust;  
( _____ , _____ , _____ )
```

10. Which of the following lines must be present in the script QuizBehavior based on this screenshot?

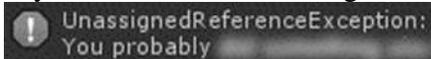


- private int Player
- public GameObject Player;
- private GameObject Player;
- public int Player;

11. Which axis represents Up and Down in the Unity scene?

- X
- Y
- Z

12. If you receive the following error in the Unity editor, what is the most likely cause?



- You have a private variable that should be changed to public
- You didn't drag-and-drop an object into a public script variable
- You didn't add an object into your scene
- An object in your scene doesn't have a name

13. A class name should start with a(n):

- Number
- Lower-case letter
- Upper-case letter
- Underscore

14. In order to see a variable in the Unity Editor, you will need to make it \_\_\_\_\_.
15. Methods in a class will be \_\_\_\_\_ (public/private/static/protected) unless specified.
16. Use the \_\_\_\_\_ keyword to allocate memory for an instance of a created object
- mem
  - alloc
  - new
  - instantiate
17. List two pairs of symbols that are always used in pairs in a C# script. \_\_\_\_ \_\_\_\_ \_\_\_\_ \_\_\_\_
18. The \_\_\_\_\_() method in a Unity script will run only once.
19. Write a compilable line of C# code to move the parent GameObject to the origin (0, 0, 0).

\_\_\_\_\_ = \_\_\_\_\_

20. What is the exact output of the following code?

```
int a = 2;
int b = 3;
float c = a / b;
Console.WriteLine("result: " + c.ToString());
```

Fill in as many boxes as needed:

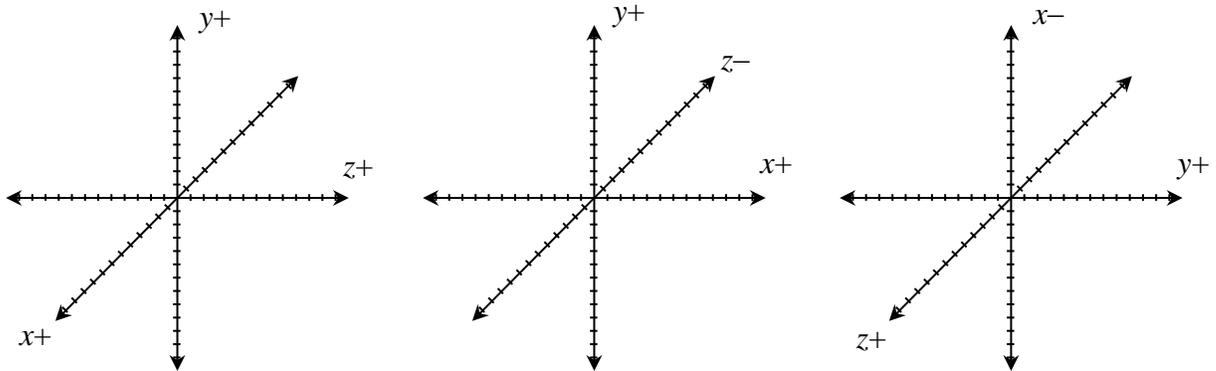
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

21. What is the exact output of the following code?

```
for(int i = 1; i <= 5; i++) {
    Console.Write(i);
}
```

Fill in as many boxes as needed:


22. Identify whether each coordinate system is left- or right-handed.



23. Which of the following lines of code are automatically included in a new MonoBehaviour script? (choose all that apply)

- using UnityEngine;
- void Run() {
- void Start () {
- void Update () {
- float x = 0;
- public GameObject player;

24. Display the following numbers in the Unity console: 5, 10, 15, 20, ..., 95, 100

```
for(int i = ____; ____ ____ ____; ____ = ____ ____ ____ )
{
    ____ . ____ ( ____ . ____ ____ );
}
```

25. How many lines of text will be displayed? \_\_\_\_\_

```
for(int i = 3; i < 9; i = i + 2) {
    Debug.Log("The line above is a lie.");
}
```

26. Give an example of a number that could not be stored in either a float or int variable type.

27. The \_\_\_\_\_ variable type can only store two possible values.

28. Give an example of a class name written using Camel-Casing: \_\_\_\_\_

29. Mark all that apply to a Rigidbody:

- Always reacts to gravity
- Can be forced to stay in one position
- Has a mass
- Is always a kinetic object
- Can mimic the effects of air resistance or friction
- Must be present for a Spring Joint to function

30. Which joint type is most similar to gluing two things together?

- Axle
- Fixed
- Hinge
- Spring

31. Which joint type can be used to simulate an electric motor?

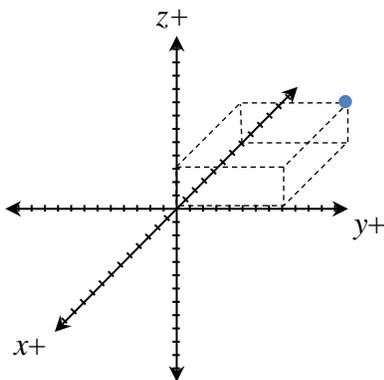
- Axle
- Fixed
- Hinge
- Spring

**True or False**

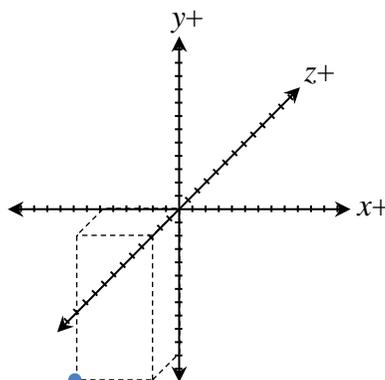
- 32. T F A .blend file can be dropped into an asset folder with a mouse.
- 33. T F Unity will always position new objects added to the scene at (0, 0, 0).
- 34. T F You can reposition an object in the scene using a mouse.
- 35. T F Changes you make to properties while you are playing the game will be saved.
- 36. T F A new Unity scene always includes 2 cameras and 3 directional lights.
- 37. T F Every GameObject is also a Rigidbody.
- 38. T F An object using a HingeJoint will always be a Rigidbody.
- 39. T F Materials can be dragged from the assets folder onto a GameObject in the scene.
- 40. T F Camel-Casing means to begin each word with a letter or symbol derived from Arabic.

**Write the coordinates of the given point. Note that the system is not always in the same orientation.**

41. ( \_\_\_\_, \_\_\_\_, \_\_\_\_)



42. ( \_\_\_\_, \_\_\_\_, \_\_\_\_)



43. ( \_\_\_\_, \_\_\_\_, \_\_\_\_)

