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A Composite Solution With Just One Click

Microsoft

98-374 PRACTICE EXAM

MTA: Gaming Development Fundamentals

Question: 1

Which three platforms are supported by XNA 4.0? (Choose three.)

- A. Xbox 360
- B. windows PC
- C. Xbox
- D. Windows Phone 7
- E. Microsoft Zune HD

Answer: A, B, D

Explanation:

<http://msdn.microsoft.com/en-us/library/dd282466.aspx>

Question: 2

Of Windows Phone 7 and Xbox 360, which feature is available only on Windows Phone 7?

- A. Xbox LIVE access
- B. Multitouch input
- C. 3D graphics support
- D. Multiplayer support

Answer: B

Explanation:

<http://msdn.microsoft.com/en-us/library/hh221584.aspx>

Question: 3

What are the two most common game-play attributes found in a social networking game? (Choose two.)

- A. Photo-realistic game characters
- B. Support for offline single-player game-play
- C. Interaction with known friends
- D. Invitation to others to play online

Answer: C, D

Explanation:

<http://msdn.microsoft.com/en-us/library/bb975961.aspx>

Question: 4

Which aspect of the game interface is commonly used to display critical game information such as player health?

- A. Heads-up display (HUD)
- B. status bar
- C. Dialog box
- D. Text box

Answer: B

Explanation:

<http://code.google.com/p/xnapprogressbar/>

Question: 5

Which device is a game console?

- A. Windows 7 PC
- B. Windows Phone 8
- C. Xbox 360
- D. Windows RT Tablet

Answer: C

Explanation:

<http://msdn.microsoft.com/en-us/library/bb975643.aspx>

Question: 6

Which game genre includes the following characteristics?

A player controlling a character or a small group of characters

Story

Character development

Exploration

Quests

Item gathering

- A. Role-playing game
- B. Action
- C. Adventure
- D. Real-time strategy

Answer: A

Explanation:

<http://ds.about.com/od/glossary/g/Rpg-Role-Playing-Game.htm>

Question: 7

Which type of graphical user interface (GUI) control allows a user to choose only one item from a predefined set of options that are always visible?

- A. Drop-down list
- B. Text box
- C. Radio button
- D. Check box

Answer: C

Explanation:

<http://davisxna.wordpress.com/2011/03/31/xna-controls-buttons-labels-pictureboxes-2/>

Question: 8

DRAG DROP

Match each game genre to its game-play. (To answer, drag each genre from the column on the left to its game-play on the right. Each genre may be used once, more than once, or not at all. Each correct match is worth one point.)

Genre	Game-play	
Action	Capture the flag	<input type="text"/>
Turn-based strategy	Construction management	<input type="text"/>
Role-playing game	Character development	<input type="text"/>
First-person shooter	Dexterity required	<input type="text"/>

Answer:

Capture the flag – First-person shooter

Construction management – Turn-based strategy

Character development – Role-playing game

Dexterity required - Action

Explanation:

http://gamersen.com/game_categorization

Question: 9

Artificial life games and high-performance racing games are sub-genres of:

- A. Adventure.
- B. Action.
- C. Strategy.
- D. Simulation.

Answer: D

Explanation:

http://gamersen.com/game_categorization

Question: 10

Which two terms refer to the collection of 3D models, 2D images, sound, and music? (Choose two.)

- A. Game engine
- B. Integrated development environment
- C. Data
- D. Assets
- E. Source code

Answer: A, B

Explanation:

<http://gamedevelopedia.com/category/XNA-40-Workshop.aspx>

Question: 11

In Microsoft .NET you want to read and write files to a location that is protected from malicious interaction with the operating system and applications.

Which data storage mechanism should you use?

- A. IsolatedStorage
- B. SafeStorage
- C. LocalStorage
- D. ApplicationStorage

Answer: A

Explanation:

[http://msdn.microsoft.com/en-us/library/3ak841sy\(v=vs.110\).aspx](http://msdn.microsoft.com/en-us/library/3ak841sy(v=vs.110).aspx)

Question: 12

HOTSPOT

You design a user interface (UI) for a touch screen.

Players report that the Fight and Flee buttons on the UI below are difficult to use. The specific issues are:

The buttons do not always respond when touched.

The buttons seem to misfire. When one button is touched, the opposite button is triggered.



You validate that the underlying code is not the cause of the problem.

You need to resolve the player input issues.

Use the drop-down menus to complete each statement. Each correct selection is worth one point.

Answer Area

To solve the responsiveness issue, the ... of the buttons should be increased.

To solve the misfire issue, the ... of the buttons should be increased.

Answer Area

To solve the responsiveness issue, the ... of the buttons should be increased.

font
size
opacity
distance

To solve the misfire issue, the ... of the buttons should be increased.

font
size
opacity
distance

Answer:

Answer Area

To solve the responsiveness issue, the ... of the buttons should be increased.

font
size
opacity
distance

To solve the misfire issue, the ... of the buttons should be increased.

font
size
opacity
distance

Question: 13

Which view shows the game world through the character's eyes?

- A. Side scrolling
- B. Third person
- C. First person
- D. Isometric

Answer: C

Explanation:

<http://msdn.microsoft.com/en-us/library/bb197901.aspx>

Question: 14

This question requires that you evaluate the underlined text to determine if it is correct.

You develop a game that stores high scores on the hard drive of a personal computer.

You need to ensure that users cannot edit the scores by using Microsoft Notepad.

The scores should be stored in a/an binary data format.

Select the correct answer if the underlined text does not make the statement correct. Select "No change is needed" if the underlined text makes the statement correct.

- A. No change is needed
- B. HTML
- C. XML
- D. plain text

Answer: C

Explanation:

<http://msdn.microsoft.com/en-us/library/bb203924.aspx>

Question: 15

Which two descriptions does the term grinding refer to? (Choose two.)

- A. A way of getting extra experience points.
- B. A common method of saving a game state.
- C. A team effort to assault a castle in medieval-style role-playing games.
- D. A repetitive task or battle necessary to progress the plot of a quest.

Answer: A, D

Question: 16

What type of special effect is a feature of Phong shading?

- A. Specularity
- B. Shadows
- C. Texture mapping
- D. Colors

Answer: A

Explanation:

<https://www.packtpub.com/article/introduction-hlsl-3d-graphics-xna-game-studio-40>

Question: 17

In game programming, delta-time is:

- A. The time between when an app starts and the current frame.
- B. The required frames per second (FPS) for the app.
- C. The time when the operating system's clock time was captured inside the app.
- D. The time in between two frames.

Answer: D

Explanation:

[http://msdn.microsoft.com/en-us/library/bb975644\(v=xnagamestudio.31\).aspx](http://msdn.microsoft.com/en-us/library/bb975644(v=xnagamestudio.31).aspx)

Question: 18

You want to create the world matrix for a single mesh that will be rendered with transformations.

In Direct3D, which transformation should come last in the world calculation to properly transform the mesh in the scene?

- A. Rotation
- B. Perspective
- C. Transform
- D. Scaling
- E. Translation

Answer: E

Explanation:

<http://msdn.microsoft.com/en-us/library/bb203933.aspx>

Question: 19

You need to implement a Direct3D-based rendering system for a 3D game.

Which method is called to create a Direct3D object in your application?

- A. CreateDevice()
- B. GetAdapterDisplayMode()
- C. Direct3DCreate9()
- D. GetAdapterIdentifier()

Answer: C

Explanation:

<http://msdn.microsoft.com/en-us/library/windows/apps/hh465149.aspx>

Question: 20

What are the main stages of a finite state machine?

- ☐ A.
- Enter
 - Process
 - Render

- ☐ B.
- Enter
 - Exit

- ☐ C.
- Enter
 - Process
 - Exit

- ☐ D.
- Process
 - Render
 - Input

- A. Option A
B. Option B
C. Option C
D. Option D

Answer: C

Explanation:

http://www.gamedev.net/page/resources/_/technical/general-programming/finite-state-machines-and-regular-expressions-r3176

Question: 21

Which term describes a game technique in which several background layers are scrolled at different speeds to create the illusion of depth?

- A. Horizon scrolling
B. Progressive scrolling
C. Multilayered scrolling
D. Parallax scrolling

Answer: D

Explanation:

[http://msdn.microsoft.com/en-us/library/dd254919\(v=xnagamestudio.31\).aspx](http://msdn.microsoft.com/en-us/library/dd254919(v=xnagamestudio.31).aspx)

Question: 22

You plan to optimize a game loop.

Which three common matrices are passed to a shader for every mesh rendered in a scene? (Choose three.)

- A. Camera

- B. World
- C. View
- D. Projection
- E. Quaternion

Answer: BCD

Explanation:

<http://msdn.microsoft.com/en-us/library/windows/apps/dn166879.aspx>

Question: 23

Which technique is responsible for handling animations, detecting input, and rendering scenes?

- A. A main loop.
- B. A graphic shader.
- C. A linked list.
- D. A linear structure.

Answer: A

Explanation:

<http://msdn.microsoft.com/en-us/library/bb203873.aspx>

Question: 24

Which matrix is changed from one frame render to the next only when the position or orientation of the camera is changed?

- A. View
- B. Identity
- C. Translation
- D. Projection

Answer: A

Explanation:

<http://msdn.microsoft.com/en-us/library/bb197901.aspx>

Question: 25

Which three audio codecs are natively supported by Windows Phone 7? (Choose three.)

- A. OGG
- B. MP3
- C. WMA
- D. AIFF
- E. ADPCM

Answer: B, C, E

Explanation:

[http://msdn.microsoft.com/en-us/library/cc189080\(vs.95\).aspx](http://msdn.microsoft.com/en-us/library/cc189080(vs.95).aspx)

Question: 26

You are creating your first 2D game engine.
 You need to set up the core application architecture.
 What is your first step in the graphics pipeline?

- A. Projection
- B. Transformation
- C. Display
- D. Clipping

Answer: B

Explanation:

<http://social.msdn.microsoft.com/Forums/en-US/9891cedc-e324-4a64-aeed-382191b9583f/xna-framework-architecture?forum=xnaframework>

Question: 27

DRAG DROP

Match each term to its definition. (To answer, drag each term from the column on the left to its definition on the right. Each term may be used once, more than once, or not at all. Each correct match is worth one point.)

Term	Definition
Force	The movement of an object in a given direction over time
Mass	The change in speed or direction of a moving object
Velocity	An object's tendency to resist change in speed or direction
Acceleration	A push or pull upon an object because of the object's interaction with another object
Inertia	The weight of an object

Answer:

The movement of an object in a given direction over time

Velocity

The change in speed or direction of a moving object

Acceleration

An object's tendency to resist change in speed or direction

Inertia

A push or pull upon an object because of the object's interaction with another

Force

The weight of an object

Mass

Explanation:

<http://www.chegg.com/homework-help/definitions/science-physics-s2>

Question: 28

Which mathematical operation is used to combine transformations stored in 4x4 matrices?

- A. Division
- B. Subtraction
- C. Multiplication
- D. Addition

Answer: C

Explanation:

[http://msdn.microsoft.com/en-us/library/windows/desktop/bb206269\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/windows/desktop/bb206269(v=vs.85).aspx)

Question: 29

You have written a collision-detection algorithm to find out whether a ball hits a wall. However, the ball sometimes passes completely through the wall and no collision is detected.

Which two reasons can explain this? (Choose two.)

- A. High ball velocity
- B. Low polygon count
- C. low frame rate
- D. Low ball velocity

Answer: A, C

Explanation:

<http://www.euclideanspace.com/threed/animation/collisiondetect/>

Question: 30

DRAG DROP

Match each collision-detection method to its description. (To answer, drag each method from the column on the left to its description on the right. Each method may be used once, more than once, or not at all. Each correct match is worth one point.)

Collision-Detection Method	Description	
Per-pixel	A fast method of comparing objects based on the distance between their center points	
Radial	A slower method that finds the overlap of the visible parts of sprites	
Rectangle	A method that detects the collision of a moving object with a fixed object such as a wall or floor	
Boundary position	A method that identifies the intersection of the bounding boxes of objects	

Answer:

A fast method of comparing objects based on the distance between their center points

Radial

A slower method that finds the overlap of the visible parts of sprites

Per-pixel

A method that detects the collision of a moving object with a fixed object such as a wall or floor

Boundary position

A method that identifies the intersection of the bounding boxes of objects

Rectangle

Explanation:

<http://www.progware.org/Blog/post/XNA-2D-Basic-Collision-Detection.aspx>

Question: 31

What asset contains the individual frames of a 2D animation?

- A. A sprite sheet (atlas)
- B. A texture map
- C. A graphics palette
- D. A shader

Answer: A

Explanation:

<http://msdn.microsoft.com/en-us/library/bb203866.aspx>

Question: 32

DRAG DROP

Match each GraphicsDevice method to its purpose. (To answer, drag each method from the column on the left to its purpose on the right. Each method may be used once, more than once, or not at all. Each correct match is worth one point.)

Method	
DrawUserPrimitives	
DrawIndexedPrimitives	
DrawUserIndexedPrimitives	
Purpose	
Renders the primitive from data specified by the user as a parameter.	
Renders the primitive from indexed data specified by the user as a parameter.	
Renders the primitive from a pre-specified indexed array of vertices.	

Answer:

Renders the primitive from data specified by the user as a parameter.

DrawUserPrimitives

Renders the primitive from indexed data specified by the user as a parameter.

DrawIndexedPrimitives

Renders the primitive from a pre-specified indexed array of vertices.

DrawUserIndexedPrimitives

Explanation:

http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.graphics.graphicsdevice_methods.aspx

Question: 33

Which formula should you use to find the distance between the two points (x1, y1, z1) and (x2, y2, z2) in 3D space?

☐ A. $\sqrt[3]{(x_2-x_1)^2+(y_2-y_1)^2+(z_2-z_1)^2}$

☐ B. $\sqrt{(x_2-x_1)^2+(y_2-y_1)^2+(z_2-z_1)^2}$

☐ C. $\begin{bmatrix} X_2 \\ Y_2 \\ Z_2 \end{bmatrix} \cdot \begin{bmatrix} X_1 \\ Y_1 \\ Z_1 \end{bmatrix}$ (Dot product)

☐ D. $\begin{bmatrix} X_2 \\ Y_2 \\ Z_2 \end{bmatrix} \times \begin{bmatrix} X_1 \\ Y_1 \\ Z_1 \end{bmatrix}$ (Cross product)

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: B

Explanation:

http://freespace.virgin.net/hugo.elias/routines/r_dist.htm

Question: 34

What are three ways to perform rotation in 3D space? (Choose three.)

- A. Determinant
- B. Angle-Axis
- C. Quaternion
- D. Vector
- E. Matrix

Answer: A, C, D

Explanation:

<http://msdn.microsoft.com/en-us/library/bb197901.aspx>

Question: 35

DRAG DROP

You are writing per-pixel collision-detection code for a game in which two objects collide. All requisite variables have been predefined.

Match each code segment to its action. (To answer, drag each code segment from the column on the left to its action on the right. Each code segment may be used once, more than once, or not at all. Each correct match is worth one point.)

Code

```
int top = Math.Max(rectA.Top, rectB.Top);int bottom =
Math.Min(rectA.Bottom, rectB.Bottom);int left =
Math.Max(rectA.Left, rectB.Left);int right =
Math.Min(rectA.Right, rectB.Right);
```

```
for (int y = top; y < bottom; y++){    for (int x =
left;x < right; x++)    {
```

```
Color colorA = dataA[(x - rectA.Left) + (y -
rectA.Top) * rectA.Width];Color colorB = dataB[(x -
rectB.Left) + (y - rectB.Top) * rectB.Width];
```

```
if (colorA.A != 0 && colorB.A != 0){ return true;}
```

Action

Examines every point within
the intersection bounds

Gets the color of both pixels
at this point

Finds the bounds of the
rectangle intersection

If both pixels are not
completely transparent, then
an intersection has been
found

Answer:

Examines every point within the intersection bounds	<pre>for (int y = top; y < bottom; y++){ for (int x = left; x < right; x++) {</pre>
Gets the color of both pixels at this point	<pre>Color colorA = dataA[(x - rectA.Left) + (y - rectA.Top) * rectA.Width]; Color colorB = dataB[(x - rectB.Left) + (y - rectB.Top) * rectB.Width];</pre>
Finds the bounds of the rectangle intersection	<pre>int top = Math.Max(rectA.Top, rectB.Top); int bottom = Math.Min(rectA.Bottom, rectB.Bottom); int left = Math.Max(rectA.Left, rectB.Left); int right = Math.Min(rectA.Right, rectB.Right);</pre>
If both pixels are not completely transparent, then an intersection has been found	<pre>if (colorA.A != 0 && colorB.A != 0){ return true;}</pre>

Question: 36

Which two are the benefits of using a quaternion? (Choose two.)

- A. To transform a mesh to a new orientation
- B. To connect armatures to mesh vertices
- C. To find the normal of a plane
- D. To implement transparency
- E. To perform rotation calculations

Answer: CE

Explanation:

<http://blogs.msdn.com/b/rezanour/archive/2012/04/29/math-primer-series-rotation-representations-and-quaternions.aspx>

Question: 37

This question requires that you evaluate the underlined text to determine if it is correct.

In the Direct3D transformation pipeline, the view transformation converts vertices that are in the viewing frustum to screen space.

Select the correct answer if the underlined text does not make the statement correct. Select "No change is needed" if the underlined text makes the statement correct.

- A. No change is needed
- B. projection
- C. world
- D. modeling

Answer: B

Question: 38

The aspect ratio of the screen is described as the:

- A. Number of pixels per inch.
- B. Physical size of each pixel on the screen.
- C. Number of vertical scan lines on the screen.
- D. Relationship between the width and height of the screen.

Answer: D

Explanation:

<http://msdn.microsoft.com/en-us/library/bb195022.aspx>

Question: 39

You are creating a game that requires a large amount of text entry.

Which two input devices offer a one-to-one mapping of buttons to letters in the alphabet? (Choose two.)

- A. Xbox 360 Chatpad
- B. Kinect
- C. PC keyboard
- D. Xbox 360 controller
- E. PC mouse

Answer: A, C

Explanation:

<http://msdn.microsoft.com/en-us/library/bb975640.aspx>

[http://msdn.microsoft.com/en-us/library/gg680270\(v=pandp.11\).aspx](http://msdn.microsoft.com/en-us/library/gg680270(v=pandp.11).aspx)

Question: 40

Which two platforms allow developers to program the graphics processing unit (GPU) by using HLSL in XNA Game Studio? (Choose two.)

- A. Windows PC
- B. Xbox 360
- C. Microsoft Zune HD
- D. Windows Phone 7

Answer: B, D

Explanation:

<http://msdn.microsoft.com/en-us/library/ff604995.aspx>

Question: 41

An XNA 4.0 program calls both Update() and Draw() methods at regular intervals.

What is the default frame rate at which the Update() method is called when the target platform is Windows PC?

- A. 30 frames per second
- B. 40 frames per second
- C. 60 frames per second
- D. Unlimited

Answer: C

Explanation:

<http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.game.targetelapsedtime.aspx>

Question: 42

What technique is used for reducing the number of 3D objects you need to draw in a 3D game?

- A. Binary space partition tree
- B. Linear interpolation
- C. Anti-aliasing
- D. Anisotropic filtering

Answer: A

Explanation:

<http://01fes.blogspot.com/2011/04/game-map-generation-using-bsp-tree.html>

Question: 43

Which device has a built-in accelerometer that can detect movement?

- A. standard mouse
- B. Xbox GamePad
- C. Kinect
- D. Windows Phone 7

Answer: D

Explanation:

<http://msdn.microsoft.com/en-us/library/ff604984.aspx>

Question: 44

You are developing a game for Windows Phone 7.

To maintain a high score list on a web server, which Microsoft .NET class should you use to send and receive data by using a web service?

- A. PacketReader
- B. NetworkSession
- C. UdpClient
- D. HttpWebRequest

Answer: D

Explanation:

<http://msdn.microsoft.com/en-us/library/hh221581.aspx>

Question: 45

HOTSPOT

For each of the following statements, select Yes if the statement is true. Otherwise, select No. Each correct selection is worth one point.

Answer Area		
Yes	No	Description of Behavior
<input type="radio"/>	<input type="radio"/>	Transmission Control Protocol (TCP) ensures that all packets are received by the server.
<input type="radio"/>	<input type="radio"/>	TCP maintains a connection between the client and the server until all data is transmitted.
<input type="radio"/>	<input type="radio"/>	TCP ensures that packets are received in the correct order.

Answer:

Yes
Yes
Yes

Question:46

Which two input devices are designed for dual analog control by using both hands simultaneously? (Choose two.)

- A. Kinect
- B. Standard keyboard
- C. Xbox 360 controller
- D. Standard mouse

Answer: A, C

Explanation:

<http://msdn.microsoft.com/en-us/library/bb203903.aspx>

Question: 47

Which three analog input devices can be used for game control? (Choose three.)

- A. Standard mouse movement
- B. Standard keyboard
- C. Standard mouse button
- D. Xbox 360 GamePad thumbstick
- E. Xbox 360 GamePad button

F. Xbox 360 GamePad trigger

Answer: D, E, F

Explanation:

[http://msdn.microsoft.com/en-us/library/bb203896\(v=xnagamestudio.31\).aspx](http://msdn.microsoft.com/en-us/library/bb203896(v=xnagamestudio.31).aspx)

Question: 48

Which Microsoft .NET namespace contains the classes required to perform the following tasks:

Creating a TCP or UDP network connection

Transmitting data

- A. System.Net.Cache
- B. System.Net.PeerToPeer
- C. System.Net.Sockets
- D. System.Net.Configuration

Answer: C

Explanation:

[http://msdn.microsoft.com/en-us/library/system.net.sockets\(v=vs.95\).aspx](http://msdn.microsoft.com/en-us/library/system.net.sockets(v=vs.95).aspx)

Question: 49

Which two user input devices support vibration feedback? (Choose two.)

- A. xbox Kinect
- B. PC mouse
- C. Xbox controller
- D. Windows Phone 7

Answer: C, D

Explanation:

<http://what-when-how.com/xna-game-studio-4-0-programming/developing-for-windows-phone-7-and-xbox-360/windows-phone-sensors-and-feedback-xna-game-studio-4-0-programming/>

Question: 50

HOTSPOT

You develop a game for a Windows 8 phone. The game uses augmented reality to render data over a video feed. The following image is the prototype of the screen:



Use the drop-down menus to complete each statement. Each correct selection is worth one point.

Answer Area

You use a/an ... to determine the **Position** data for the phone.

You use a/an ... to determine the **Heading** data for the phone.

Answer Area

You use a/an ... to determine the **Position** data for the phone.

accelerometer
compass
geolocation
gyrometer
inclinometer

You use a/an ... to determine the **Heading** data for the phone.

accelerometer
compass
geolocation
gyrometer
inclinometer

Answer:

Answer Area

You use a/an ... to determine the **Position** data for the phone.

 accelerometer
 compass
 geolocation
 gyrometer
 inclinometer

You use a/an ... to determine the **Heading** data for the phone.

 accelerometer
 compass
 geolocation
 gyrometer
 inclinometer

Explanation:

<http://stackoverflow.com/questions/tagged/compass-geolocation>

<http://stackoverflow.com/questions/12476515/phonegap-with-compass-and-gps-coordinates>

Question: 51

Which two hardware platforms support the use of the Xbox 360 controller? (Choose two.)

- A. Windows PC
- B. Xbox 360
- C. Zune HD
- D. Windows Phone 7

Answer: A, B

Explanation:

<http://msdn.microsoft.com/en-us/library/bb203903.aspx>

Question: 52

Which description refers to a high-definition monitor that supports 1080p?

- A. Every horizontal inch consists of 1080 pixels.
- B. The image on the screen consists of 1080 pixels.
- C. The screen resolution is 1080 pixels in height.
- D. The screen resolution is 1080 pixels in width.

Answer: A

Explanation:

<http://peripherals.about.com/od/monitorsdisplayscreens/a/whatsHD.htm>

Question: 53

What two ways can you improve the frame rate of your 3D game? (Choose two.)

- A. Use column major matrices instead of row major matrices.
- B. Avoid inline methods.
- C. Reduce draw calls.
- D. Save results instead of recalculating them.
- E. Make your view frustum longer.

Answer: AD

Question: 54

Which is the correct version of Microsoft .NET Framework available on the Xbox 360 and Windows Phone 7 platforms?

- A. .NET Framework Client Profile
- B. .NET Micro Framework
- C. .NET Framework 4.0
- D. .NET Compact Framework

Answer: D

Explanation:

<http://msdn.microsoft.com/en-us/library/bb417503.aspx#ID4ENB>

<http://msdn.microsoft.com/en-us/library/bb788171%28v=vs.90%29.aspx>

Question: 55

Which term refers to the stored value of a particular property or properties of a 3D model at a specific point in an animation timeline?

- A. interpolation
- B. Timeline point
- C. Keyframe
- D. Frame

Answer: C

Explanation:

[http://msdn.microsoft.com/en-](http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.content.pipeline.graphics.animationkeyframe.aspx)

[us/library/microsoft.xna.framework.content.pipeline.graphics.animationkeyframe.aspx](http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.content.pipeline.graphics.animationkeyframe.aspx)

Question: 56

DRAG DROP

Match each matrix name to its definition. (To answer, drag each matrix name from the column on the left to its definition on the right. Each matrix name may be used once, more than once, or not at all. Each correct match is worth one point.)

Matrix Name	Matrix Definition
World	This matrix is used to render all objects relative to their distance from the camera.
Orthographic projection	This matrix is used to position and move objects in the game scene.
Perspective projection	This matrix is used to position a camera in the game.
View	This matrix is used to render all objects without regard to their distance from the camera.

Answer:

This matrix is used to render all objects relative to their distance from the camera.

This matrix is used to position and move objects in the game scene.

This matrix is used to position a camera in the game.

This matrix is used to render all objects without regard to their distance from the camera.

Orthographic projection

View

World

Perspective projection

<http://msdn.microsoft.com/en-us/library/bb195660.aspx>

<http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.matrix.createperspective.aspx>

<http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.matrix.createworld.aspx>

http://msdn.microsoft.com/en-us/library/Microsoft.Xna.Framework.Matrix_methods.aspx

Question: 57

HOTSPOT

You are working on the collision system for your new game project. You have the following code that detects collisions between two objects in a 2D screen orientation:

```
Struct Rect
{
    float xMin;
    float xMax;
    float yMin;
    float yMax;

    Rect(float xMin, float yMin, float xMax, float yMax);
}

Rect rRect = new Rect(0.0f, 0.0f, 100.0f, 100.0f);
Vector2 vPoint = new Vector2(50.0f, 50.0f);

if (vPoint.x > rRect.xMin && vPoint.x < rRect.xMax)
{
    if (vPoint.y > rRect.yMin && vPoint.y < rRect.yMax)
    {
    }
}
```

The screen origin (0,0) is at the top left of the screen.

Use the drop-down menus to complete each statement. Each correct selection is worth one point.

Answer Area

When both **if** statements evaluate to be true, then a ... collision is detected.

The rectangle created by the code segment is in the ... section of the screen.

Answer Area

When both **if** statements evaluate to be true, then a ... collision is detected.

 point inside of circle
 point inside of rectangle
 rectangle inside of point
 rectangle to rectangle

The rectangle created by the code segment is in the ... section of the screen.

 top left
 top right
 bottom left
 bottom right

Answer:

Answer Area

When both **if** statements evaluate to be true, then a ... collision is detected.

 point inside of circle
 point inside of rectangle
 rectangle inside of point
 rectangle to rectangle

The rectangle created by the code segment is in the ... section of the screen.

 top left
 top right
 bottom left
 bottom right
Question: 58

You plan to write an XNA code segment in C# to reverse the direction of the ball when it collides with a screen boundary.

You write the following code segment.

```

if (ball.Y > Window.ClientBounds.Height)
{
    ball.ySpeed *= -1;
}
else if (ball.Y < 0)
{
    ball.ySpeed *= -1;
}
if (ball.X > Window.ClientBounds.Width)
{
    ball.xSpeed *= -1;
}
else if (ball.X < 0)
{
    ball.xSpeed *= -1;
}

```

When you run the code, you discover that sometimes the ball gets stuck at the boundary resulting in a ping-pong effect back and forth.

What error causes the ping-pong effect?

- A. The failure of the code to speed up the ball while it is reversing the direction
- B. The failure of the code to reset the ball's position to the boundary on collision
- C. The failure of the code to wait one frame before reversing the direction of the ball
- D. The failure of the code due to accumulated math errors that break the collision detection

Answer: B

Question: 59

You are working on the orientation system for 3D models in your new game project.

You need to transform a matrix by using DirectX.

Which order of operations should you use?

- A. translation, then rotation, then scale
- B. scale, then translation, then rotation
- C. rotation, then translation, then scale
- D. scale, then rotation, then translation

Answer: D

Explanation:

[http://msdn.microsoft.com/en-us/library/windows/desktop/bb206269\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/windows/desktop/bb206269(v=vs.85).aspx)

Question: 60

In animation, what is a keyframe?

- A. The method of changing one image into another through a seamless transition.
- B. A technique to determine bone positions.
- C. A rotoscoping technique.
- D. The starting and ending points of a transition.

Answer: D

Explanation:

[http://msdn.microsoft.com/en-us/library/ie/hh673530\(v=vs.85\).aspx#create_the_keyframes](http://msdn.microsoft.com/en-us/library/ie/hh673530(v=vs.85).aspx#create_the_keyframes)

Question: 61

Two solid objects collide in your game.

Which three object properties should you use to calculate the collision response? (Choose three.)

- A. Acceleration
- B. Luminosity
- C. Rotation
- D. Velocity
- E. Mass

Answer: A, D, E

Explanation:

<http://www.euclideanspace.com/physics/dynamics/collision/index.htm>

Question: 62

This question requires that you evaluate the underlined text to determine if it is correct.

High Level Shading Language (HLSL) provides an interface for the programmable pipeline to the graphics card.

Select the correct answer if the underlined text does not make the statement correct. Select "No change is needed" if the underlined text makes the statement correct.

- A. No change is needed
- B. XAML
- C. C#
- D. C++

Answer: A

Question: 63

A row major matrix means that the translation vector is stored in the:

- A. last row.
- B. first row.
- C. last column.
- D. first column.

Answer: D

Explanation:

<http://msdn.microsoft.com/en-us/library/bb203910.aspx>

Question: 64

In a gaming application, the Direct3D graphics pipeline is a series of programmable stages used to process final output data as:

- A. triangles.
- B. transformation matrix data.
- C. pixel data.
- D. shader fragments.

Answer: C

Explanation:

[http://msdn.microsoft.com/en-us/library/dd904179\(v=xnagamestudio.31\).aspx](http://msdn.microsoft.com/en-us/library/dd904179(v=xnagamestudio.31).aspx)

Question: 65

What is the name of the data type for a transformation matrix in high-level shading language (HLSL)?

- A. sampler
- B. int
- C. float4x4
- D. double4

Answer: B

Explanation:

<http://www.catalinzima.com/xna/tutorials/crash-course-in-hlsl/>

Question: 66

The SpriteBatch class is part of the XNA Framework that:

- A. converts 3D models into 2D graphic image sources.
- B. enables a group of 2D bitmaps to be drawn.
- C. stores an animation from a series of bitmap images.
- D. creates multiple resolutions of a given sprite.

Answer: B

Explanation:

<http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.graphics.spritebatch.aspx>

Question: 67

When loading an XNA Texture2D asset, what type of parameter should you pass to the Content.LoadQ method?

- A. The alpha value that must be applied to the bitmap asset
- B. The directory in which the bitmap asset is stored
- C. The mesh on which the bitmap asset will be loaded

D. A string that contains the name of the bitmap asset

Answer: D

Explanation:

<http://msdn.microsoft.com/en-us/library/bb197848.aspx>

Question: 68

Which system is used to manage data during game startup and game-play?

- A. State machine
- B. Shaders
- C. Exception handling
- D. Callbacks

Answer: A

Explanation:

<http://www.evelands.net/evan/xna03.php>

Question: 69

With regard to a high-level shading language (HLSL) effect file, which two shaders are required for a technique to function properly? (Choose two.)

- A. vertex
- B. Hull
- C. Domain
- D. Pixel
- E. Geometry

Answer: DE

Explanation:

[http://msdn.microsoft.com/en-us/library/windows/desktop/bb509635\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/windows/desktop/bb509635(v=vs.85).aspx)

Question: 70

To manage a 3D model as a hierarchy, what inherits the transforms of the parent object?

- A. All child objects
- B. First child object
- C. Root object
- D. Sibling objects

Answer: A

Question: 71

Which type of coordinate system does Direct3D use by default?

- A. polar
- B. Left-handed
- C. Right-handed
- D. Cylindrical

Answer: C

Explanation:

[http://msdn.microsoft.com/en-us/library/bb197956\(v=xnagamestudio.31\).aspx](http://msdn.microsoft.com/en-us/library/bb197956(v=xnagamestudio.31).aspx)

Question: 72

What are the three properties of Texture2D? (Choose three.)

- A. Height
- B. Bounds
- C. Data
- D. width
- E. Depth

Answer: A, B, D

Explanation:

http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.graphics.texture2d_properties.aspx

Question: 73

What are the three characteristics of a massively multiplayer online role playing game (MMORPG)? (Choose three.)

- A. The game is played on multiple personal computers (PCs), consoles, and mobile devices and requires one or more servers to coordinate the game.
- B. The player's character increases in abilities and skills as their abilities and skills are used in the game.
- C. The game is played by two or more players who take turns playing on the same PC, console, or mobile device.
- D. The primary game play involves players competing in one-on-one combat.
- E. Thousands of players can play concurrently.

Answer: A, B, E

Explanation:

http://gamersen.com/game_categorization

Question: 74

Which is a characteristic of a first-person shooter game?

- A. Selection of ranged weapons

- B. Slow, thoughtful, and strategic game-play
- C. Overhead view of the action
- D. Ability to create new units or weapons

Answer: A

Explanation:

http://gamersen.com/game_categorization

Question: 75

Which device is a game console?

- A. Xbox 360
- B. Windows Phone 7
- C. Microsoft Zune
- D. Windows 7 PC

Answer: A

Explanation:

<http://msdn.microsoft.com/en-us/library/bb975643.aspx>

Question: 76

Which namespace must be included in your XNA code to support a game pad, a keyboard, and a mouse?

- A. Microsoft.Xna.Framework.Design
- B. Microsoft.Xna.Framework.Media
- C. Microsoft.Xna.Framework.Input
- D. Microsoft.Xna.Framework.Net
- E. Microsoft.Xna.Framework.GamerService
- F. Microsoft.Xna.Framework.Storage

Answer: C

Explanation:

<http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.input.aspx>

Question: 77

Which two terms refer to the computer programming that you use to create a game? (Choose two.)

- A. Data
- B. Game engine
- C. Source code
- D. Integrated development environment
- E. Assets

Answer: CE

Explanation:

<http://msdn.microsoft.com/en-us/library/bb464156.aspx>

Question: 78

Which is one of the common techniques that programmers use to provide artificial intelligence (AI) to non-player characters (NPCs)?

- A. A state machine
- B. A Microsoft DirectX pipeline
- C. A Gaussian filter
- D. A single trigonometric function
- E. Two quaternions

Answer: A

Question: 79

The behavior or artificial intelligence (AI) of non-player characters (NPCs) is developed by using:

- A. Script programming.
- B. Rigging.
- C. UV mapping.
- D. Modeling software.

Answer: D

Question: 80

Which of the following is unique to a Windows PC game compared to games played on the Xbox 360 or Windows Phone 7?

- A. Multiple players can connect and play by using the Internet.
- B. Updates can be downloaded and installed when necessary.
- C. Game results and achievements can be posted to online leaderboards.
- D. Complex input is available by using the mouse, keyboard, or handheld controllers.

Answer: D

Explanation:

<http://msdn.microsoft.com/en-us/library/bb203903.aspx>

Question: 81

Which are the two common features of a casual game? (Choose two.)

- A. A large group of players

- B. The ability to quickly complete a task or level
- C. A comprehensive setup process
- D. Simple rules and game play

Answer: B, D

Explanation:

<http://www.codemag.com/Article/0709041>

Question: 82

You need to add touch input to a game that currently uses mouse input.

Which input state is supported for mouse input, but has no equivalent support for touch input by using the player's finger?

- A. scrolling
- B. hover
- C. drag
- D. double-click

Answer: B

Explanation:

<http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.input.aspx>

Question: 83

Which view shows the game world from directly behind the character?

- A. Third person
- B. First person
- C. Isometric
- D. Side scrolling

Answer: A

Explanation:

[http://msdn.microsoft.com/en-us/library/bb203909\(v=xnagamestudio.31\).aspx](http://msdn.microsoft.com/en-us/library/bb203909(v=xnagamestudio.31).aspx)

Question: 84

Which XNA game class method is called to process game logic such as modifying the geometry of a game scene or working with user input?

- A. Game.LoadContent
- B. Game.Initialize
- C. Game.Draw
- D. Game.Update

Answer: D

Explanation:

<http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.game.update.aspx>

Question: 85

Which XNA object should you use in your game to get the screen size?

- A. Microsoft.Xna.Framework.Graphics.RasterizerState
- B. Microsoft.Xna.Framework.Media
- C. Microsoft.Xna.Framework.Graphics.SpriteBatch
- D. Microsoft.Xna.Framework.GraphicsDeviceManager.GraphicsDevice.DisplayMode

Answer: D

Explanation:

<http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.graphics.graphicsdevice.displaymode.aspx>

Question: 86

You are creating a role-playing game that contains regular game-play features.

Which two features help the player to have a strong sense of achievement? (Choose two.)

- A. Rewards for completing tasks
- B. Detailed textual introduction
- C. Numerous ways to gain experience points
- D. Amusing non-player characters (NPCs)

Answer: A, C

Explanation:

http://www.gamasutra.com/view/feature/132368/unlocking_achievements_rewarding_.php

Question: 87

Platformers and Shooters are sub-genres of:

- A. Adventure.
- B. Action.
- C. Strategy.
- D. Simulation.

Answer: B

Explanation:

http://gamersen.com/game_categorization

Question: 88

Which term describes what happens to a Windows Phone 7 game when the operating system switches to a different process and the game is halted?

- A. Tombstoning
- B. Pausing
- C. Hibernating
- D. Serializing

Answer: D

Question: 89

You create a game project that stores player information on a central server. The information is accessed by using the Internet.

You must ensure that player information cannot be accessed by an unauthorized user.

You need to identify the most secure methods to send data to the server.

Which two methods should you use? (Choose two.)

- A. Send the information by using the HTTPS protocol.
- B. Embed the information in a universal resource locator (URL) as a query string and then send the information by using the HTTP protocol.
- C. Embed the information as part of an HTML form post method and then send the information by using an HTTP connection.
- D. Encrypt the information and then send it by using the HTTP protocol.

Answer: CD

Explanation:

[http://msdn.microsoft.com/en-us/library/ms524784\(v=vs.90\).aspx](http://msdn.microsoft.com/en-us/library/ms524784(v=vs.90).aspx)

Question: 90

You are designing a reusable text input component for a game's graphical user interface (GUI).

Which two game engine resources make a text input field functional? (Choose two.)

- A. Pixel shader
- B. Key input
- C. Mouse input
- D. Timer services

Answer: AB

Question: 91

Which is a unique trait of console platforms compared to personal computer (PC) platforms?

- A. Consoles that are on the same network pool their memory, central processing units (CPUs), and video card capabilities among players.

- B. Consoles that are the same model and version have the same hardware specifications for memory, central processing units (CPUs), and video hardware.
- C. Consoles have multiple computing cores.
- D. Consoles have higher video resolution.

Answer: B

Question: 92

Which type of software tool should you use to map an armature or bone structure to a 3D mesh for use by a physics engine?

- A. Game engine
- B. C++ compiler
- C. UV light mapping
- D. Modeling software
- E. Integrated development environment

Answer: D

Question: 93

HOTSPOT

You need to identify the characteristics of a game when the player is in first-person view.

For each of the following statements, select Yes if the statement is true. Otherwise, select No. Each correct selection is worth one point.

Yes	No	Player View
<input type="radio"/>	<input type="radio"/>	Players see the world around their character, but they do not see their character's body.
<input type="radio"/>	<input type="radio"/>	Players see the world around their character, and they see their character's body from a few feet behind the character.
<input type="radio"/>	<input type="radio"/>	The main character is the first character that players see. All other characters are seen later in the game in order of importance.

Answer:

Yes	No	Player View
<input checked="" type="radio"/>	<input type="radio"/>	Players see the world around their character, but they do not see their character's body.
<input type="radio"/>	<input checked="" type="radio"/>	Players see the world around their character, and they see their character's body from a few feet behind the character.
<input type="radio"/>	<input checked="" type="radio"/>	The main character is the first character that players see. All other characters are seen later in the game in order of importance.

Question: 94

In an XNA Game Studio 4.0 project, what is the name of the process that imports and transforms an art asset from its original file format into a data file that can be loaded at run time?

- A. Content Processor
- B. Content Pipeline
- C. Content Importer
- D. Content Manager

Answer: B

Explanation:

<http://msdn.microsoft.com/en-us/library/bb447745.aspx>

Question: 95

What is the name of the Microsoft service that allows you to host, run, and scale your server-side applications on a Microsoft data center?

- A. Microsoft Azure
- B. Microsoft Virtual Server
- C. Microsoft Office SharePoint
- D. Microsoft BizTalk Server

Answer: A

Explanation:

<http://msdn.microsoft.com/en-us/library/azure/dd163896.aspx>

Question: 96

In a 7.1 surround sound system, what do the numbers in 7.1 refer to?

- A. A signal-to-noise ratio of 7:1
- B. Seven speakers and one low-frequency-effects speaker
- C. The version of the noise reduction being used
- D. The number of speakers in the front and the back

Answer: B

Explanation:

http://www.webopedia.com/TERM/7/7_1_surround_sound.html

Question: 97

Which three gestures are supported by Windows Phone 7 XNA games? (Choose three.)

- A. Triple tap
- B. pinch
- C. Flick

- D. scroll
- E. Hold

Answer: BCE

Explanation:

[http://blogs.msdn.com/b/nicgrave/archive/2010/07/12/touch-gestures-on-windows-phone-7.aspx?utm_source=feedburner&utm_medium=twitter&utm_campaign=Feed%3A+SiteHome+\(Microsoft+%7C+Blog+%7C+MSDN\)](http://blogs.msdn.com/b/nicgrave/archive/2010/07/12/touch-gestures-on-windows-phone-7.aspx?utm_source=feedburner&utm_medium=twitter&utm_campaign=Feed%3A+SiteHome+(Microsoft+%7C+Blog+%7C+MSDN))

Question: 98

You develop a game engine that supports multiple operating systems.
Which three platforms place limits on the size of the game application? (Choose three.)

- A. Windows 7
- B. Windows Vista
- C. Windows Phone 8
- D. Xbox 360
- E. windows Store

Answer: BCD

Explanation:

[http://msdn.microsoft.com/en-us/library/windows/apps/hh855082\(v=vs.105\).aspx](http://msdn.microsoft.com/en-us/library/windows/apps/hh855082(v=vs.105).aspx)

Question: 99

Which technology is used to send messages to a Windows Phone 7 game that is not currently running?

- A. Push Notification Services
- B. Web Services
- C. Polling Network Services
- D. Windows Azure

Answer: A

Explanation:

<http://msdn.microsoft.com/en-us/library/hh221549.aspx>

Question: 100

Which two components of the Xbox 360 controller allow continuous input rather than discrete input? (Choose two.)

- A. D-Pad
- B. Left and right triggers
- C. Left and right thumbsticks
- D. Left and right bumpers

Answer: CD

Question: 101

What are three inputs available on Windows Phone 7? (Choose three.)

- A. Touch input
- B. Temperature sensor
- C. Accelerometer
- D. Game pad
- E. Global Positioning System (GPS)

Answer: A, C, E

Explanation:

<http://msdn.microsoft.com/en-us/library/ff827744.aspx>

<http://windowsphone7developerguide.blograby.com/tag/vs/>

Question: 102

What is the default setting for TargetElapsedTime in an XNA project that uses a fixed-step game loop?

- A. 1 second
- B. 1/2 second
- C. 1/30 second
- D. 1/60 second

Answer: D

Explanation:

<http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.game.targetelapsedtime.aspx>

Question: 103

Which data type is used to represent points to draw lines and other geometric figures?

- A. Texture
- B. Mesh
- C. shader
- D. vector

Answer: D

Explanation:

<http://msdn.microsoft.com/en-us/library/bb203910.aspx>

Question: 104

You are implementing shaders into a 3D game-rendering engine.

What describes a shader?

- A. it is a programmable interface before the graphics pipeline.
- B. It provides a programmable interface into the graphics pipeline.
- C. it is a transformation scripting interface.
- D. it is a scripting graphical user interface.

Answer: B

Explanation:

[http://msdn.microsoft.com/en-us/library/windows/desktop/bb944006\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/windows/desktop/bb944006(v=vs.85).aspx)

Question: 105

What is needed for separate modular game components to work together without knowing that the other component exists?

- A. Both components must be singletons
- B. An Application Programming Interface (API)
- C. One component must be a singleton
- D. A messaging system

Answer: D

Question: 106

UV coordinates are used to map which of the following to 3D vertices?

- A. Armatures
- B. Textures
- C. Shaders
- D. Triangles

Answer: B

Explanation:

[http://msdn.microsoft.com/en-us/library/bb976075\(v=xnagamestudio.31\).aspx](http://msdn.microsoft.com/en-us/library/bb976075(v=xnagamestudio.31).aspx)

Question: 107

Which code segment will return true only if the point is located inside the rectangle?

☐ A

```
if(point.x >= rect.left &&
  point.x <= rect.right &&
  point.y >= rect.top &&
  point.y <= rect.bottom)
{
    return true;
}
else
{
    return false;
}
```

☐ B

```
if(point.x <= rect.left ||
  point.x >= rect.right ||
  point.y <= rect.top ||
  point.y >= rect.bottom)
{
    return true;
}
else
{
    return false;
}
```

☐ C

```
if(point.x >= rect.left ||
  point.x <= rect.right ||
  point.y >= rect.top ||
  point.y <= rect.bottom)
{
    return true;
}
else
{
    return false;
}
```

☐ D

```
if(point.x <= rect.left &&
  point.x >= rect.right &&
  point.y <= rect.top &&
  point.y >= rect.bottom)
{
    return true;
}
else
{
    return false;
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: B

Question: 108

Which XNA class contains skeletal animation data when a model file is loaded into memory?

- A. BoneContent
- B. Children
- C. Parent
- D. Animations

Answer: A

Explanation:

<http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.content.pipeline.graphics.aspx>

Question: 109

You are working on a game that has a grid on which the avatar of the player moves in steps. The origin (0,0) is at the upper-left corner of the game board. Y increases toward the bottom, while x increases toward the right.

Which code segment should you use to move the avatar of the player by 3 units to the South and 3 units to the West?

☐ A. `playerAvatar.X += 3;`
`playerAvatar.Y += 3;`

☐ B. `playerAvatar.X += 3;`
`playerAvatar.Y -= 3;`

☐ C. `playerAvatar.X -= 3;`
`playerAvatar.Y -= 3;`

☐ D. `playerAvatar.X -= 3;`
`playerAvatar.Y += 3;`

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: D

Explanation:

<http://msdn.microsoft.com/en-us/library/jj131041.aspx>

Question: 110

Which matrix sets the coordinates of a 3D model to default orientation?

- A. Identity
- B. View
- C. World
- D. Projection

Answer: A

Explanation:

<http://what-when-how.com/xna-game-studio-4-0-programmingdeveloping-for-windows-phone-7-and-xbox-360/3d-math-basics-xna-game-studio-4-0-programming-part-2/>

Question: 111

Which matrix changes a model's coordinates from camera space into clip space?

- A. View
- B. Projection
- C. World
- D. Identity

Answer: B

Explanation:

<http://what-when-how.com/xna-game-studio-4-0-programmingdeveloping-for-windows-phone-7-and-xbox-360/projection-matrix-xna-game-studio-4-0-programming/>

Question: 112

Which method refers to the rendering technique where a low-resolution texture is used at long range and a high-resolution texture is used at close range?

- A. Nearest-point filtering
- B. Anisotropic filtering
- C. Mipmapping
- D. Texture atlas

Answer: C

Explanation:

<http://msdn.microsoft.com/en-us/library/ms892793.aspx>

Question: 113

Which 3D transformation changes a model's coordinates into camera-space coordinates?

- A. Projection
- B. view
- C. Screen
- D. world

Answer: B

Explanation:

<http://stackoverflow.com/questions/1309154/xna-view-matrix-seeking-explanation>

Question: 114

What is the minimum data required to render triangles in a graphics pipeline?

- A. Color data
- B. Vertex data
- C. Normal data
- D. UV coordinate data

Answer: B

Explanation:

<http://rbwhitaker.wikidot.com/drawing-triangles>

Question: 115

What technique is used to insert transitional frames between key frames?

- A. Gimbal lock
- B. Interpolation
- C. Interleaving
- D. Extrapolation

Answer: B

Explanation:

<http://www.codeproject.com/Articles/417272/How-to-perform-fading-transitions-on-Textures-in-X>

Question: 116

You are designing a message box for a game's graphical user interface (GUI).

You need to ensure that the message box meets the following requirements:

A rectangular background image

An area that displays a text message

An acknowledgement button

Which programming component should you use?

- A. Sprite and font rendering
- B. Scene graph object culling
- C. Mesh transforms
- D. HLSL shader lighting

Answer: A

Explanation:

<http://msdn.microsoft.com/en-us/library/bb447673.aspx>

Question: 117

DRAG DROP

You are going to apply for a job as a gameplay programmer.

You need to understand game programming terminology.

Match the term to the definition. (To answer, drag the appropriate term from the column on the left to its definition on the right. Each term may be used once, more than once, or not at all. Each correct match is worth one point.)

Answer Area	
artificial intelligence	
collision detection	
physics	
user interface	

Term	Definition
	Code that determines if objects in the game are intersecting or overlapping.
	Code that determines how objects in the game interact with each other and the environment.
	Code that creates elements in the game to display information and receive player input.
	Code that controls the movements and actions of non-player characters.

Answer:

Term	Definition
collision detection	Code that determines if objects in the game are intersecting or overlapping.
physics	Code that determines how objects in the game interact with each other and the environment.
user interface	Code that creates elements in the game to display information and receive player input.
artificial intelligence	Code that controls the movements and actions of non-player characters.

Explanation:

<http://www.digitalrune.com/Products/GameEngine/GameUI.aspx><http://cplus.about.com/od/glossar1/>**Question: 118**

Which three structures belong to the Xna.Framework.Input namespace? (Choose three.)

- A. GamePadState
- B. KeyboardState
- C. MouseState
- D. SamplerState
- E. InputState

Answer: ABC

Explanation:

<http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.input.aspx>

Question: 119

You are working on a complex turn-based strategy game.
Which feature will keep your audience interested?

- A. Rewards to the player for lucky guesses
- B. The opportunity to the player to evaluate each move carefully
- C. The scope to the player to think fast and act faster
- D. Random events playing a critical role in the outcome of choices
- E. Strong emphasis on hand-eye coordination

Answer: B

Explanation:

http://www.gamasutra.com/view/feature/132368/unlocking_achievements_rewarding_.php

Question: 120

To play musical tracks in random order by using a game engine, you should use a script that:

- A. moves the 3D location of the audio source.
- B. calls audio filtering.
- C. calls audio playback.
- D. renders shading.
- E. manipulates the meshes.

Answer: C

Explanation:

<http://msdn.microsoft.com/en-us/library/dd231914.aspx>

Question: 121

Which two operating system user input services are available for your Windows Phone 7 game? (Choose two.)

- A. Selectors
- B. Choosers
- C. Pickers
- D. Launchers

Answer: BD

Explanation:

[http://msdn.microsoft.com/library/windows/apps/ff769542\(v=vs.105\).aspx](http://msdn.microsoft.com/library/windows/apps/ff769542(v=vs.105).aspx)

Question: 122

Which language runs natively on the graphics processing unit (GPU)?

- A. C#
- B. High Level Shading Language (HLSL)
- C. C++
- D. JavaScript

Answer: B

Explanation:

<http://dl.acm.org/citation.cfm?id=2038861&prelayout=tabs>

Question: 123

Which description refers to interlaced video?

- A. Every odd pixel is displayed in one pass and every even pixel is displayed in an alternating pass.
- B. The red, green, and blue components are drawn one at a time.
- C. Every scan line on the screen is drawn in one pass.
- D. Every odd scan line on the screen is drawn in one pass and every even scan line is drawn in an alternating pass.

Answer: D

Explanation:

[http://msdn.microsoft.com/en-us/library/windows/desktop/aa367729\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/windows/desktop/aa367729(v=vs.85).aspx)

Question: 124

Which two environments can you use to write games on Windows Phone 7? (Choose two.)

- A. Microsoft Silverlight 4
- B. Adobe Flash 10
- C. XNA4.0
- D. Microsoft DirectX 11

Answer: C, D

Explanation:

[http://msdn.microsoft.com/library/windows/apps/ff472340\(v=vs.105\).aspx](http://msdn.microsoft.com/library/windows/apps/ff472340(v=vs.105).aspx)

<http://msdn.microsoft.com/en-us/library/windows/apps/hh465149.aspx>

Question: 125

In an XNA game, which two properties in Microsoft.Xna.Framework.Game controls the automatic frame rate setting? (Choose two.)

- A. gameTime
- B. IsFixedTimeStep
- C. TargetElapsedTime
- D. Content

Answer: B, C

Explanation:

http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.game_members.aspx

Question: 126

What are the two unique features of Kinect in comparison to the Xbox 360 handheld controller? (Choose two.)

- A. Wireless control of the game
- B. Wireless of audible input
- C. Recognizing facial features
- D. Tracking of skeletal motions

Answer: C, D

Explanation:

<http://msdn.microsoft.com/en-us/library/jj663803.aspx>

Question: 127

Which method should you use for Xbox Live networking to function correctly on the Xbox 360 and Windows PC devices?

- A. Game.Update()
- B. NetworkGamer.UpdateQ
- C. NetworkData.Update()
- D. NetworkSession.Update()

Answer: D

Explanation:

<http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.net.networksession.update.aspx>

Question: 128

You are implementing the math library for a game engine.
You need to find a solution that stores transform information by using only four floats.
Which solution should you use?

- A. quaternions
- B. 4x4 matrix
- C. 3x3 matrix
- D. Euler angles

Answer: A

Explanation:

<http://blogs.msdn.com/b/rezanour/archive/2012/04/29/math-primer-series-rotation-representations-and->

quaternions.aspx

Question: 129

Which graphic file format loses fidelity when compressed?

- A. .TGA
- B. .PNG
- C. .BMP
- D. JPG

Answer: B

Explanation:

<http://www.w3.org/TR/PNG/>

Question: 130

The Xbox 360 save game data can be read from and written to:

- A. Title storage.
- B. Protected memory.
- C. User storage.
- D. Content pipeline.

Answer: C

Explanation:

<http://msdn.microsoft.com/en-us/library/bb199073.aspx>

Question:131

In
a Direct3D game, what is the key attribute of a directional light?

- A. Hue
- B. Conic volume
- C. Orientation
- D. Location

Answer: C

Explanation:

<http://www.gamedev.net/topic/657911-getting-perspective-frustum-in-world-coordinates/>

Question: 132

Which two techniques can be used to indicate the transparency area in a sprite? (Choose two.)

- A. A texel
- B. An index color

- C. An alpha channel
- D. A normal map
- E. A UV map
- F. A bump map

Answer: E, F

Question: 133

Which XNA method should you use to get the height and width of text rendered with a SpriteFont?

- A. MeasureString
- B. GetRect
- C. GetSpacing
- D. Bounds

Answer: A

Explanation:

<http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.graphics.spritefont.measurestring.aspx>

Question: 134

In XNA, which is used to load and unload game assets?

- A. ContentImporter
- B. Game.Components
- C. Game.Content
- D. GameComponent

Answer: C

Explanation:

<http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.game.loadcontent.aspx>

Question: 135

You are working on the rendering portion of an XNA game. All requisite variables have been defined and all assets loaded.

You review the following code segment:

```

Matrix[] transforms = new Matrix[model.Bones.Count];
model.CopyAbsoluteBoneTransformsTo(transforms);
foreach (ModelMesh mesh in model.Meshes)
{
    foreach (BasicEffect effect in mesh.Effects)
    {
        effect.EnableDefaultLighting();
        effect.View = view;
        effect.Projection = projection;
        effect.World = rotation * scaling *
            transforms[mesh.ParentBone.Index] *
            translation;
    }
    mesh.Draw();
}

```

What action does the code achieve?

- A. Renders a model by using fixed-function lighting
- B. Renders a model by using a built-in shader
- C. Renders a list of models by using a built-in shader
- D. Renders a skeletal model by using a custom shader

Answer: B

Question: 136

You plan to use a radial collision-detection algorithm to detect the circle collision. You assume that the first circle is located at (x1,y1) with a radius of radius1 and the second circle is located at (x2,y2) with a radius of radius2. Which algorithm will return true when the circles collide with each other?

- ☐ A.

```
int dx = x2 - x1;
int dy = y2 - y1;
int radii = radius1 + radius2;
if( (dx*dx) + (dy*dy) < radii + radii )
{
    return true;
}
else
{
    return false;
}
```
- ☐ B.

```
if( Math.Sqrt(Math.Pow((x2-x1),2) + Math.Pow((y2-y1),2))
<=(radius1 + radius2) )
{
    return true;
}
else
{
    return false;
}
```
- ☐ C.

```
int dx = x2 - x1;
int dy = y2 - y1;
int radii = radius1 - radius2;
if( (dx*dx) - (dy*dy) < radii + radii )
{
    return true;
}
else
{
    return false;
}
```
- ☐ D.

```
if( Math.Sqrt((x2-x1) * (x2-x1) - (y2-y1) * (y2-y1))
< (radius1 - radius2) )
{
    return true;
}
else
{
    return false;
}
```

- A. Option A
B. Option B
C. Option C
D. Option D

Answer: B

Question: 137

Which two types of values can be captured by sensors used in motion capture? (Choose two.)

- A. Pressure

- B. Orientation
- C. Length
- D. Position
- E. Force

Answer: B, D

Explanation:

<http://channel9.msdn.com/coding4fun/kinect/Real-Time-Motion-Capture-using-Kinect-XNA-and-the-DigitalRune-Engine>

Question: 138

In XNA, what is the correct order to combine the transformation matrices into a resulting world matrix?

- A. Translation * Rotate * Scale
- B. World * View * Projection
- C. Scale * Rotate * Translation
- D. Projection * World * View
- E. Translation * Scale * Rotate

Answer: C

Explanation:

[http://msdn.microsoft.com/en-us/library/windows/desktop/bb206269\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/windows/desktop/bb206269(v=vs.85).aspx)

Question: 139

Which XNA method allows you to build a matrix to move scene geometry on one or more axes?

- A. Matrix.Determinant()
- B. Matrix.CreateLookAt()
- C. Matrix.Invert()
- D. Matrix.Createtranslation()

Answer: D

Explanation:

<http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.matrix.createtranslation.aspx>

Question: 140

Which vector operation gives the cosine of the angle between two vectors?

- A. Cross product
- B. Addition
- C. Dot product
- D. Multiplication

Answer: C

Explanation:

<http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.vector2.dot.aspx>

Question: 141

Why are video games considered discrete simulations?

- A. Games are unique in the way that they simulate the real world.
- B. Games only deal with discrete mathematics.
- C. Games are completely accurate in the way that they simulate continuous events.
- D. Games only process individual samples of the game state at specific moments in time.

Answer: D

Question: 142

Which matrix controls the transition from world coordinates into camera space?

- A. Identity
- B. Projection
- C. World
- D. View

Answer: D

Explanation:

<http://msdn.microsoft.com/en-us/library/bb197901.aspx>

Question: 143

You develop a game for mobile devices.

You must have the best graphics possible for each display resolution that the mobile devices support.

What should you do?

- A. Create a single set of graphics based on the highest resolution screen and use this set of graphics for all devices.
- B. Create a single set of the graphics that is based on the highest resolution screen and then scale the graphics down for lower resolution screens.
- C. Create multiple sets of graphics and customize each set for every screen size and resolution.
- D. Create the graphics based on the lowest resolution screen and then scale the graphics up for higher resolution screens.

Answer: C

Explanation:

<http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.graphicsdevicemanager.aspx>

Question: 144

You are programming a game that perfectly features elastic collision. A red ball is traveling along the x-axis with a speed of +5 and a blue ball is traveling along the x-axis with a speed of -5. There is no motion on any other axis. Each ball has identical mass. They collide with the center of each ball perfectly aligned with the other. What reaction motion should you expect after the collision?

- A. Both balls begin moving along the y-axis at a speed of -5.
- B. Both balls stop, and there is no more motion.
- C. The red ball stops, and the blue ball begins moving at a speed of +10 along the x-axis.
- D. The red ball begins moving along the x-axis at a speed of -5, and the blue ball begins moving along the x-axis at a speed of + 5.

Answer: D

Explanation:

<http://stackoverflow.com/questions/345838/ball-to-ball-collision-detection-and-handling>

Question: 145

You develop a new Windows game.
The game must have a programmable graphics pipeline and be able to display graphics.
Which tool should you use?

- A. DirectComposition
- B. XAML
- C. DirectX
- D. Windows Imaging Component (WIC)

Answer: C

Explanation:

[http://msdn.microsoft.com/en-us/library/dd904179\(v=xnagamestudio.31\).aspx](http://msdn.microsoft.com/en-us/library/dd904179(v=xnagamestudio.31).aspx)

Question: 146

Which game genre has the following characteristics?
Single player
Interactive story
Puzzle solving

- A. Massive multiplayer online role-playing game (MMORPG)
- B. Action
- C. Adventure
- D. Role-playing game

Answer: C

Explanation:

http://gamersen.com/game_categorization

Question: 147

Which device has a built-in infrared camera that can detect movement?

- A. Kinect
- B. Xbox GamePad
- C. Standard mouse
- D. Windows Phone 7

Answer: A

Explanation:

<http://msdn.microsoft.com/en-us/library/jj663800.aspx>

Question: 148

To maximize character animation quality, each vertex of a 3D mesh should be mapped to:

- A. opaque textures.
- B. multiple bones.
- C. a single bone target.
- D. proximity triggers.

Answer: B

Explanation:

<http://mobilebits.de/Blog/post/2007/02/25/Skeletal-Bone-Animation-and-Skinning-with-Collada-Models-in-XNA.aspx>

Question: 149

Which two descriptions always refer to a plane in 3D space? (Choose two.)

- A. Any three unique points that make a triangle
- B. Any two unique points that make a line
- C. A single point and a normal vector
- D. Any four unique points that make a quadrilateral

Answer: BD

Question: 150

HOTSPOT

You are working on the transformation system for 3D models in your new game project. You use a 4x4 matrix as shown below to transform your objects:

$$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

Use the drop-down menus to complete each statement. Each correct selection is worth one point.

Answer Area

The matrix is called a(n) ... matrix.

DirectX matrices are ... major.

Answer Area

The matrix is called a(n) ... matrix.

- identity
- rotation
- scale
- translation

DirectX matrices are ... major.

- no
- all
- row
- column

Answer:

Answer Area

The matrix is called a(n) ... matrix.

- identity
- rotation
- scale
- translation

DirectX matrices are ... major.

- no
- all
- row
- column

Explanation:

<http://msdn.microsoft.com/en-us/library/microsoft.xna.framework.matrix.identity.aspx>

[http://msdn.microsoft.com/en-us/library/windows/desktop/dd607354\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/windows/desktop/dd607354(v=vs.85).aspx)

Question: 151

Which game genre focuses on allowing the player characters to build up skills and abilities when they play the game?

- A. Simulation
- B. Puzzle game
- C. Role-playing game
- D. Turn-based strategy
- E. First-person shooter

Answer: C

Explanation:

http://gamersen.com/game_categorization

Question: 152

This question requires that you evaluate the underlined text to determine if it is correct.

Adaptive difficulty means that the goals, quests, and activities of the game have a level of difficulty that randomly changes regardless of the player's level of skill.

Select the correct answer if the underlined text does not make the statement correct. Select "No change is needed" if the underlined text makes the statement correct.

- A. No change is needed
- B. Increases with
- C. Exceeds
- D. is Similar to

Answer: D

Question: 153

Real-time strategy (RTS) games are defined by which two terms? (Choose two.)

- A. Resource management
- B. Character skills and abilities
- C. Headshots
- D. Grouping units
- E. Puzzle solving

Answer: A, D

Explanation:

http://gamersen.com/game_categorization