

Programming in HTML5 with JavaScript and CSS3

Chapter 12: Drawing with HTML5

Q1. Which element of the following brings ability to draw in HTML5 without requiring any plug-in?

- A. <figure>
- B. <canvas>
- C. <svg>
- D. <object>

Answer: B

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canvas is drawing. To draw you have use JavaScript

svg is for creating and displaying vector graphics. JavaScript is not required to work with svg]

Q2. Which element of the following to create and display Scalable Vector Graphics (SVG) in HTML5 without requiring any plug-in?

- A. <figure>
- B. <canvas>
- C. <svg>
- D. <object>

Answer: C

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Q3. What is SVG?

- A. It is a bitmap web image format
- B. It is an image format which supports multiple layers.
- C. It is a new language to show animations in web pages
- D. SVG is a language by which to define two-dimensional graphics in

XML Answer: D

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SVG is a language by which to define two-dimensional graphics in XML, and the XML can be rendered by the browser by using the <svg> element]

Q4. Which one allows defining define two-dimensional graphics in XML?

- A. canvas
- B. svg
- C. flash
- D. sliverlight

Answer: B

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Q5. How do you create drawings on canvas element in HTML5?

- A. Using drawing definitions in XML inside canvas element
- B. Using javascript through the canvas context
- C. Using plug-in such as Adobe flash

D. None of the
above Answer: B
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Q6. What is the toDataURL() method of the canvas element used for?

- A. To serialize the canvas drawings so that it can be sent to server for save as a web image format
- B. To create a URL that can be used with an element that requires an image URL
- C. to send the canvas content to a different web page
- D. to encode canvas data into URL-encoded form

Answer: B
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Q7. You want to use the drawings on the canvas in an img element. Which method should you use?

- A. getContext()
- B. getDataUrl()
- C. toDataURL()
- D. toImageUrl()

Answer: C
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Q8. Which one of the following is to draw on the canvas?

- A. Methods of the canvas
- B. Methods of the document object
- C. Methods of the window object
- D. Methods of the context object that is returned from the getContext method of the canvas

Answer: D
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Q9. What does the getContext method of the canvas which accepts a parameter 2d return?

- A. Image
- B. Bitmap
- C. CanvasRenderingContext
- D. CanvasRenderingContext2D

Answer: D
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Q10. Which method of the context object of the canvas is used to create a new, blank ImageData object?

- A. createImageData()
- B. getImageData()
- C. putImageData()
- D. drawImage()

Answer: A
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Q11. Which method of the context object of the canvas moves the path to the specified point in the canvas without creating a line?

- A. lineTo

-
- B. moveTo
 - C. beginPath
 - D. stroke

Answer: B

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Q12. Which method of the context object of the canvas adds a new point and creates a line from that point to the last specified point in the canvas?

- A. lineTo
- B. moveTo
- C. beginPath
- D. stroke

Answer: A

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Q13. Which method of the context object of the canvas starts a path or resets the current path?

- A. restore
- B. moveTo
- C. beginPath
- D. closePath

Answer: C

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Q14. Which method of the context object of the canvas creates a path from the current point back to the starting point?

- A. lineTo
- B. moveTo
- C. beginPath
- D. closePath

Answer: D

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Q15. Which does the getContext method of the canvas accepts the value as parameter to return a context object that is supported by all browsers including Internet Explorer?

- A. 2
- B. 2d
- C. 3d
- D. webgl

Answer: B

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Q16. Which one draws a rectangle which a blue filled with opacity .25?

- A.

```
var canvas = document.getElementById('myCanvas');  
var ctx = canvas.getContext('2d');  
ctx.fillStyle = "rgb(0, 0, 255)"; ctx.shadowBlur = .25;  
ctx.fillRect(0, 0, 100, 100);
```
- B.

```
var canvas = document.getElementById('myCanvas');  
var ctx = canvas.getContext('2d');
```

-
- ```
ctx.fillStyle = "rgb(0, 0, 255)";
ctx.shadowColor = .25;
ctx.fillRect(0, 0, 100, 100);
```
- C. `var canvas = document.getElementById('myCanvas');`  
`var ctx = canvas.getContext('2d');`  
`ctx.fillStyle = "rgb(0, 0, 255)"; ctx.fillRect(0, 0, 100, 100); ctx.stroke(.25);`
- D. `var canvas = document.getElementById('myCanvas');`  
`var ctx = canvas.getContext('2d');`  
`ctx.fillStyle = "rgba(0, 0, 255, 0.25)";`  
`ctx.fillRect(0, 0, 100, 100);`

Answer: D

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Q17. You have a canvas element in your page, the HTML you write `<canvas id='mycanvas'>`  
`</canvas>`

How can you get a reference to the canvas context?

- A. `var canvas = document.getElementById('mycanvas');`  
`var ctx = canvas.getContext();`
- B. `var canvas = document.getElementById('mycanvas');`  
`var ctx = canvas.getContext2D();`
- C. `var canvas = document.getElementById('mycanvas');`  
`var ctx = canvas.getRenderingContext();`
- D. `var canvas = document.getElementById('mycanvas');`  
`var ctx = canvas.getContext('2d');`

Answer: D

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Q18. Which method of the graphics context of a canvas element should you use to draw an unfilled rectangular area?

- A. `rect()`
- B. `fillRect()`
- C. `strokeRect()`
- D. `stroke()`

Answer: C

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Q19. Which code example can be used to draw a rectangle on a `<canvas>` element that has an id of `myCanvas`?

- A. `var canvas = document.getElementById('myCanvas');`  
`var ctx = canvas.getContext();`  
`ctx.rectangle(10, 10, 50, 75);`
- B. `var canvas = document.getElementById('myCanvas');`  
`canvas.rectangle(10, 10, 50, 75);`
- C. `var canvas = document.getElementById('myCanvas');`  
`var ctx = canvas.getContext('2d');`  
`ctx.fillRect(10, 10, 50, 75);`

---

```
D. var canvas = document.getElementById('myCanvas');
 var ctx = canvas.getContext();
 ctx.fillRect(10, 10, 50, 75);
```

Answer: C

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Q20. You want to draw an arc that is approximately three-quarters of a circle. Which method is the easiest to use to accomplish this task?

- A. arcTo()
- B. arc()
- C. circle()
- D. dot()

Answer: B

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Q21. The content of the <svg> element is in which format?

- A. SGML
- B. HTML
- C. XHTML
- D. XML

Answer: D

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Q22. On the <svg> element, what attribute provides a window into the drawing and enables zoom capabilities?

- A. zoom
- B. window
- C. viewBox
- D. zoomWindow

Answer: C

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Q23. Which one is not the member of the <canvas> element?

- A. width
- B. height
- C. toDataURL()
- D. fill()

Answer: D

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fill() is the method of the context object]

Q24. What is the proper parameter to pass to the getContext method on the canvas to create two-dimensional drawings?

- A. WebGL
- B. 2d
- C. 3d
- D. No parameter

Answer: B

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Q25. Which method of the rendering context object of a canvas element do you use to clear the specified rectangular area?

- A. `clearRect(x, y, w, h)`
- B. `clear(x, y, w, h)`
- C. `strokeRect(x, y, w, h)`
- D. `rect(x, y, w,`

h) Answer: A

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Q26. You are drawing on HTML5 canvas you have the code like below: (Line numbers are illustrative purpose only)

1. `var canvas = document.getElementById('canvas');`
2. `var ctx = canvas.getContext('2d');`

To draw a 100X100, which code segment after line 2 will do the purpose?

- A. `ctx.fillStyle = 'red';`  
`ctx.rect(0, 0, 100,`  
`100); ctx.fill();`
- B. `ctx.fillStyle = 'red';`  
`ctx.fillRect(100, 100, 100, 100);`
- C. `ctx.fillStyle = 'red';`  
`ctx.rect(0, 0, 100,`  
`100); ctx.stroke();`
- D. `ctx.fillStyle = 'red';`  
`ctx.strokeRect(100, 100, 100, 100);`

Answer: B

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Q27. You are drawing on HTML5 canvas you have the code like below: (Line numbers are illustrative purpose only)

1. `var canvas = document.getElementById('canvas');`
2. `var ctx = canvas.getContext('2d');`

You want to draw an 200X100 rectangle like below



Which code segment you should add after Line 2?

- A. `var lg = ctx.createLinearGradient(0, 0, 200,`  
`100); lg.addColorStop(0, 'white');`  
`lg.addColorStop(1, 'black');`  
`ctx.fillStyle = lg; ctx.strokeStyle`  
`= 'black'; ctx.lineWidth = .5;`  
`ctx.fillRect(0, 0, 200, 100);`  
`ctx.strokeRect(0, 0, 200, 100);`

- 
- B. `var lg = ctx.createLinearGradient(0, 0, 100, 0); lg.addColorStop(0, 'white'); lg.addColorStop(1, 'black'); ctx.fillStyle = lg; ctx.strokeStyle = 'black'; ctx.lineWidth = .5; ctx.fillRect(0, 0, 200, 100); ctx.strokeRect(0, 0, 200, 100);`
- C. `var lg = ctx.createLinearGradient(0, 0, 200, 0); lg.addColorStop(0, 'white'); lg.addColorStop(1, 'black'); ctx.fillStyle = lg; ctx.strokeStyle = 'black'; ctx.lineWidth = .5; ctx.fillRect(0, 0, 200, 100); ctx.strokeRect(0, 0, 200, 100);`
- D. `var lg = ctx.createLinearGradient(0, 0, 200, 200); lg.addColorStop(0, 'white'); lg.addColorStop(1, 'black'); ctx.fillStyle = lg; ctx.strokeStyle = 'black'; ctx.lineWidth = .5; ctx.fillRect(0, 0, 200, 100); ctx.strokeRect(0, 0, 200, 100);`

Answer: C

[A – gradient will progress diagonally

B – gradient will be half of the width, the later half will be filled

black C- correct

D – out of range]

Q28. You are drawing on HTML5 canvas. You have the canvas rendering object `ctx` in your code. You want to fill a 400X400 rectangle with an image pattern.gif. Which code fragment should you use?

- A. `var img = new Image();  
img.src = 'images/pattern.gif';  
var ptrn = ctx.createPattern(img, 'repeat'); ctx.fillStyle = ptrn;  
ctx.fillRect(0, 0, 400, 400);`
- B. `var img = new Image();  
img.src = 'images/pattern.gif';  
img.onload = function () {  
 var ptrn = ctx.createPattern(img, 'repeat'); ctx.fillStyle = ptrn;  
 ctx.fillRect(0, 0, 400, 400);  
}`
- C. `var img = new Image();  
img.src = 'images/pattern.gif';  
img.onload = function () {  
 ctx.fillStyle = img;`

---

```
 ctx.fillRect(0, 0, 400, 400);
}
```

```
D. var img = new Image();
 img.src = 'images/pattern.gif';
 ctx.fillStyle = img;
 ctx.fillRect(0, 0, 400, 400);
```

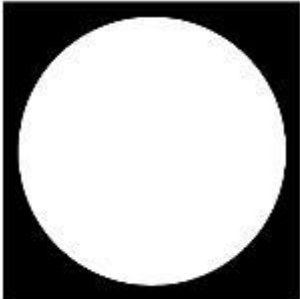
Answer: B

Q29. Which method of canvas rendering object do you use to draw circle?

- A. circle()
- B. arc()
- C. arcTo()
- D. ellipse()

Answer: B

Q30. Which of the following code draws the shapes like below?



- A. 

```
<svg width="400" height="400" xmlns="http://www.w3.org/2000/svg">
 <rect x="0" y="0" width="400" height="400" fill="black" />
 <circle cx="200" cy="200" r="180" fill="white" />
</svg>
```
- B. 

```
<svg width="400" height="400" xmlns="http://www.w3.org/2000/svg">
 <circle cx="200" cy="200" r="180" fill="white" />
 <rect x="0" y="0" width="400" height="400" fill="black" />
</svg>
```
- C. 

```
<svg width="400" height="400" xmlns="http://www.w3.org/2000/svg">
 <rect x="0" y="0" width="400" height="400" fill="black" />
 <arc cx="200" cy="200" r="180" fill="white" />
</svg>
```
- D. 

```
<svg width="400" height="400" xmlns="http://www.w3.org/2000/svg">
 <rectangle x="0" y="0" width="400" height="400" fill="black" />
 <circle cx="200" cy="200" r="180" fill="white" />
</svg>
```

Answer: A

Q31. Look at the following shape



Which of the following svg definition does not render the above shape properly?



- 
- A. `<svg width="400" height="400" xmlns="http://www.w3.org/2000/svg">  
 <path d="M0 0 L100 0 L100 100 Z" fill="black" />  
</svg>`
- B. `<svg width="400" height="400" xmlns="http://www.w3.org/2000/svg">  
 <path d="M0 0 l100 0 l100 100 Z" fill="black" />  
</svg>`
- C. `<svg width="400" height="400" xmlns="http://www.w3.org/2000/svg">  
 <path d="M0 0 H100 V100 Z" fill="black" />  
</svg>`
- D. `<svg width="400" height="400" xmlns="http://www.w3.org/2000/svg">  
 <path d="M0 0 h100 v100 Z" fill="black" />  
</svg>`

Answer: B