

Cummulative test Review #2

1. Use the quadratic formula to solve: $3x^2 + 5x - 9 = 0$

2. What are the solutions of the equation?

$$x^2 = 9x - 14$$

a. $x = -1$ or $x = 14$

b. $x = 2$ or $x = 7$

c. $x = -1$ or $x = -14$

d. $x = -2$ or $x = -7$

Factor completely.

3. $60u^4 + 51u^3 - 30u^2$

a. $3u^2(5u+5)(4u-2)$

b. $u^2(5u-5)(4u-2)$

c. $u^2(4u+5)(5u-2)$

d. $3u^2(4u+5)(5u-2)$

Write the expression as a complex number in standard form.

4. $(1+5i) - (3+6i)$

a. $-2-i$

b. $4-i$

c. $4+i$

d. $-2+i$

5. $\frac{6-4i}{7-3i}$

a. $\frac{27}{29} - \frac{23}{29}i$

b. $\frac{27}{29} - \frac{5}{29}i$

c. $\frac{3}{4} - \frac{1}{4}i$

d. $\frac{3}{4} - \frac{23}{20}i$

Solve.

6. $5(x+5)^2 + 24 = 49$

a. $-25 \pm \sqrt{6}$

b. $-5 \pm \sqrt{5}$

c. $5 \pm \sqrt{5}$

d. $25 \pm \sqrt{6}$

Solve.

7. $x^2 - 3x = 0$

a. $-3, 3$

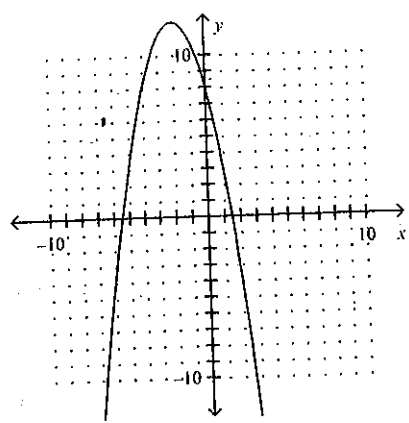
b. $0, -3$

c. $1, 3$

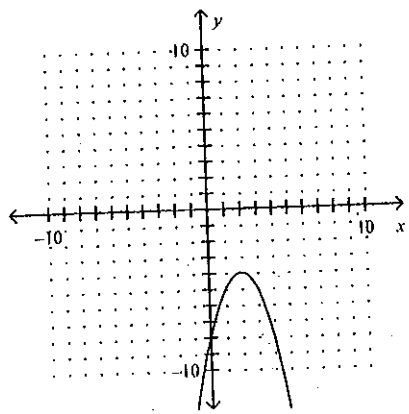
d. $0, 3$

8. $y = -(x+2)^2 - 4$

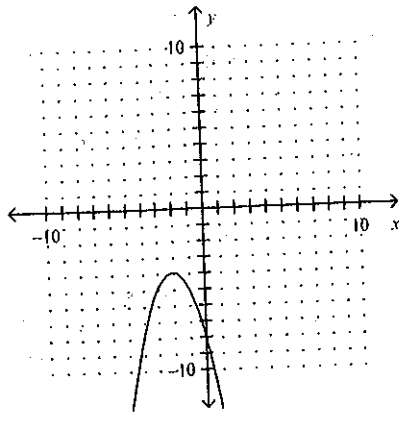
a.



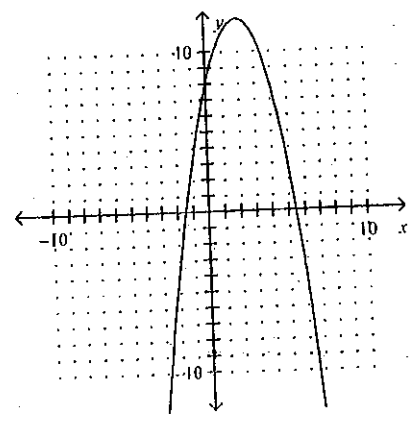
b.



c.



d.



Solve the inequality algebraically.

9. $x^2 - 7x \geq 18$

- a. $x \leq -9$ or $x \geq 2$
- b. $-9 \leq x \leq 2$

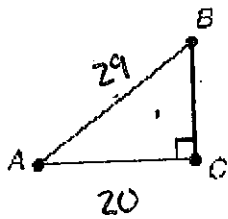
- c. $-2 \leq x \leq 9$
- d. $x \leq -2$ or $x \geq 9$

10. How would you translate the graph of $y = x^2$ to produce the graph of $y = -(x-3)^2$?

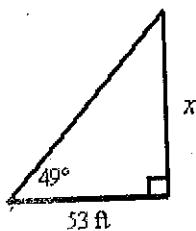
- a. translate the graph of $y = x^2$ left 3 units and a horizontal reflection
- b. translate the graph of $y = x^2$ down 3 units and a horizontal reflection
- c. translate the graph of $y = x^2$ up 3 units and a vertical reflection
- d. translate the graph of $y = x^2$ right 3 units and a vertical reflection

11. An equilateral triangle has side lengths of 36. The length of its altitude is _____

12. The tangent of $\angle B$ is _____.

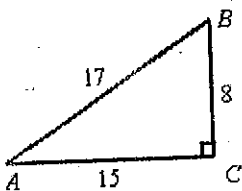


13. A photographer shines a camera light at a particular painting forming an angle of 49° with the camera platform. If the light is 53 feet from the wall where the painting hangs, how high above the platform is the painting?



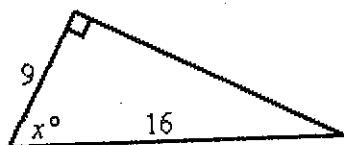
- a. 46.07 ft
- b. 1.15 ft
- c. 0.87 ft
- d. 60.97 ft

14. Write $\cos A$.



- a. $\frac{8}{17}$
- b. $\frac{8}{15}$
- c. $\frac{15}{17}$
- d. $\frac{15}{8}$

15. Solve for x to the nearest degree.

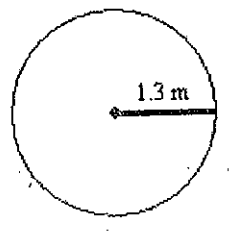


- a. 56
- b. 61
- c. 29
- d. 34

16. If a circle has a diameter of 5 inches, what is the circumference rounded to the nearest whole number?
Use $\pi \approx 3.14$.
- a. 32 in.
 - b. 20 in.
 - c. 8 in.
 - d. 16 in.
17. A circle has a circumference of 29 meters. Find its radius.
- a. 14.5 m
 - b. 9.23 m
 - c. 4.62 m
 - d. 7.25 m
18. Find the length of a 90° arc in a circle with a radius of 15 ft

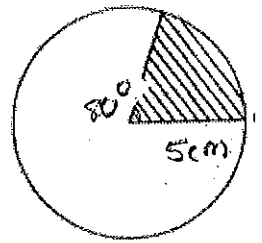
Find the area:

19.



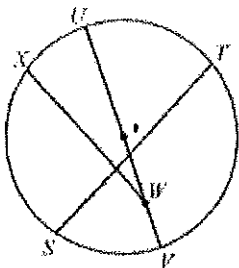
- a. 1.32665 m^2
- b. 5.3066 m^2
- c. 8.164 m^2
- d. 21.2264 m^2

20. Find the area of the shaded region.



21. What is the surface area of a sphere with radius 8.4 feet?

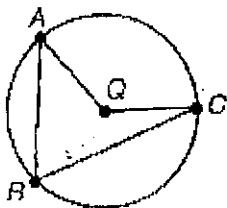
22. Identify two chords.



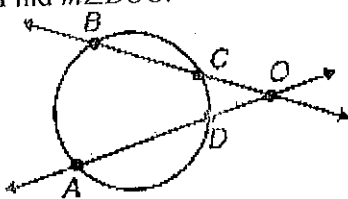
- a. \overline{ST} and \overline{WX}
- b. \overline{ST} and \overline{UV}

- c. \overline{UV} and \overline{WX}
- d. \overline{SU} and \overline{TV}

23. Given $\odot Q$ and $m\angle B = 38^\circ$, find $m\widehat{AC}$.

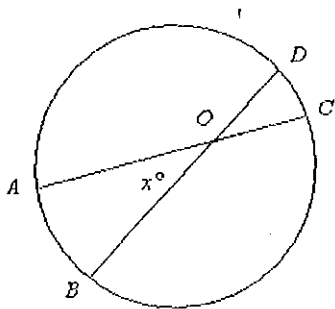


24. $m\widehat{AB} = 165^\circ$, $m\widehat{CD} = 83^\circ$
Find $m\angle DOC$.



Not drawn to scale

Use the diagram (not draw to scale) and the given information.



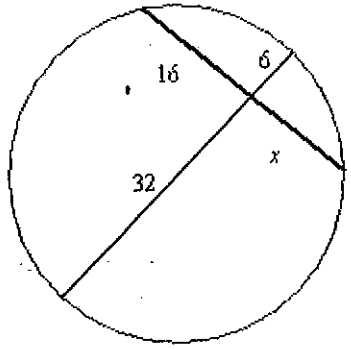
25. Find the value of x if $m\widehat{AB} = 20^\circ$ and $m\widehat{CD} = 62^\circ$.

- a. 43°
- b. 21°

- c. 41°
- d. 20.5°

Find the value of x .

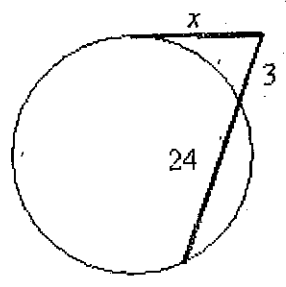
26.



- a. 24
- b. 8

- c. 16
- d. 12

27.



- a. none of these
- b. 9

- c. 21
- d. 8