

Cummulative test Review

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

2. What are the solutions of the equation?

$$x^2 = -6x + 16$$

a. $x = -1$ or $x = -16$

b. $x = -8$ or $x = 2$

c. $x = -1$ or $x = 16$

d. $x = 8$ or $x = -2$

Factor completely.

3. $40u^4 - 34u^3 - 20u^2$

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

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

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

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

Write the expression as a complex number in standard form.

4. $(-8 + 7i) + (-4 + 9i)$

a. $-12 - 16i$

b. $-4 - 16i$

c. $-12 + 16i$

d. $-4 + 16i$

5. $\frac{6-3i}{5-8i}$

a. $\frac{2}{13} + \frac{11}{13}i$

b. $\frac{54}{89} + \frac{33}{89}i$

c. $\frac{54}{89} - \frac{63}{89}i$

d. $\frac{2}{13} - \frac{21}{13}i$

Solve.

6. $5(x + 8)^2 - 22 = 13$

a. $35 \pm \sqrt{7}$

b. $-8 \pm \sqrt{7}$

c. $8 \pm \sqrt{7}$

d. $-35 \pm \sqrt{7}$

Solve.

7. $x^2 + 7x = 0$

a. $1, -7$

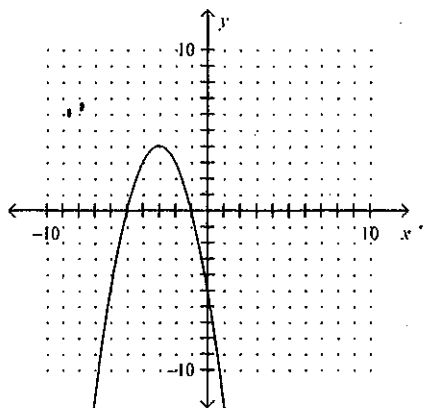
b. $0, -7$

c. $-7, 7$

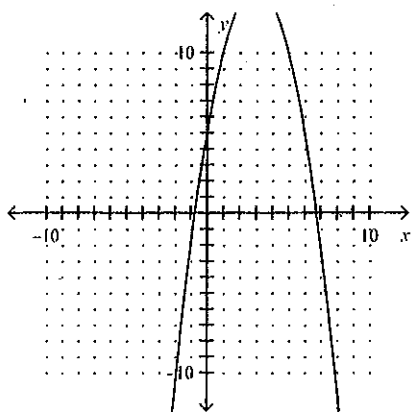
d. $0, 7$

8. $y = -(x+3)^2 + 4$

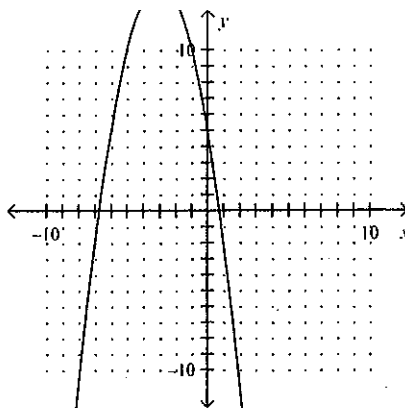
a.



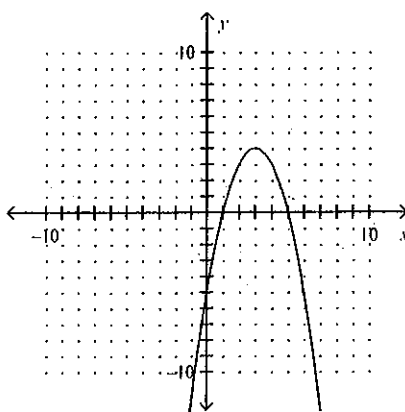
b.



c.



d.



Solve the inequality algebraically.

9. $x^2 + x \geq 90$

a. $-10 \leq x \leq 9$

b. $x \leq -10$ or $x \geq 9$

c. $-9 \leq x \leq 10$

d. $x \leq -9$ or $x \geq 10$

10. How would you translate the graph of $y = x^2$ to produce the graph of $y = -(x-7)^2$?

a. translate the graph of $y = x^2$ down 7 units and a horizontal reflection

b. translate the graph of $y = x^2$ left 7 units and a horizontal reflection

c. translate the graph of $y = x^2$ up 7 units and a vertical reflection

d. translate the graph of $y = x^2$ right 7 units and a vertical reflection

11. An equilateral triangle has side lengths of 24. The length of its altitude is _____.

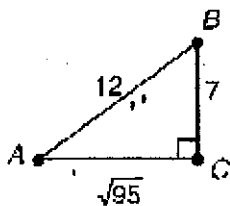
a. 24

b. 12

c. $12\sqrt{3}$

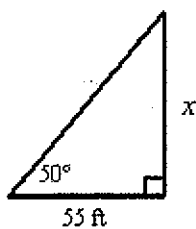
d. $12\sqrt{2}$

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



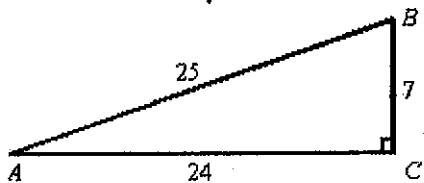
- a. $\frac{12}{7}$ b. $\frac{\sqrt{95}}{12}$ c. $7\sqrt{95}$ d. $\frac{\sqrt{95}}{7}$

13. A photographer shines a camera light at a particular painting forming an angle of 50° with the camera platform. If the light is 55 feet from the wall where the painting hangs, how high above the platform is the painting?



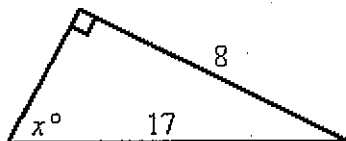
- a. 65.55 ft b. 46.15 ft c. 1.19 ft d. 0.84 ft

14. Write $\cos B$.



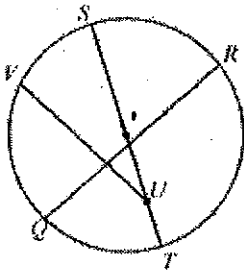
- a. $\frac{7}{25}$ b. $\frac{24}{25}$ c. $\frac{7}{24}$ d. $\frac{24}{7}$

15. Solve for x to the nearest degree.



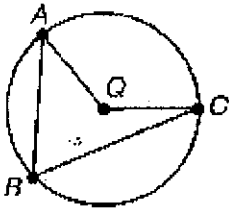
- a. 62 b. 65 c. 28 d. 25

22. Identify two chords.

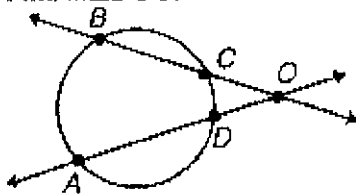


- a. \overline{QS} and \overline{RT}
- b. \overline{QR} and \overline{UV}
- c. \overline{QR} and \overline{ST}
- d. \overline{ST} and \overline{UV}

23. Given $\odot Q$ and $m\angle B = 78^\circ$, find $m\widehat{AC}$.

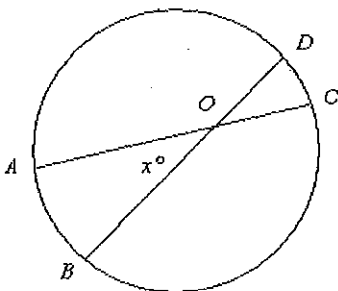


24. $m\widehat{AB} = 102^\circ$, $m\widehat{CD} = 37^\circ$
Find $m\angle DOC$.



Not drawn to scale

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

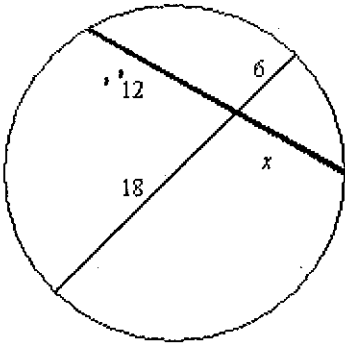


25. Find the value of x if $m\widehat{AB} = 23^\circ$ and $m\widehat{CD} = 53^\circ$.

- a. 15°
- b. 38°
- c. 19°
- d. 40°

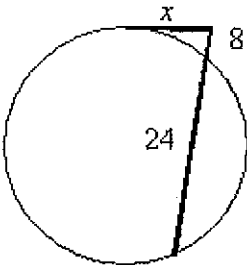
Find the value of x .

26.



- a. 6
b. 9
c. 12
d. 18

27.



- a. 18
b. none of these
c. 16
d. 13