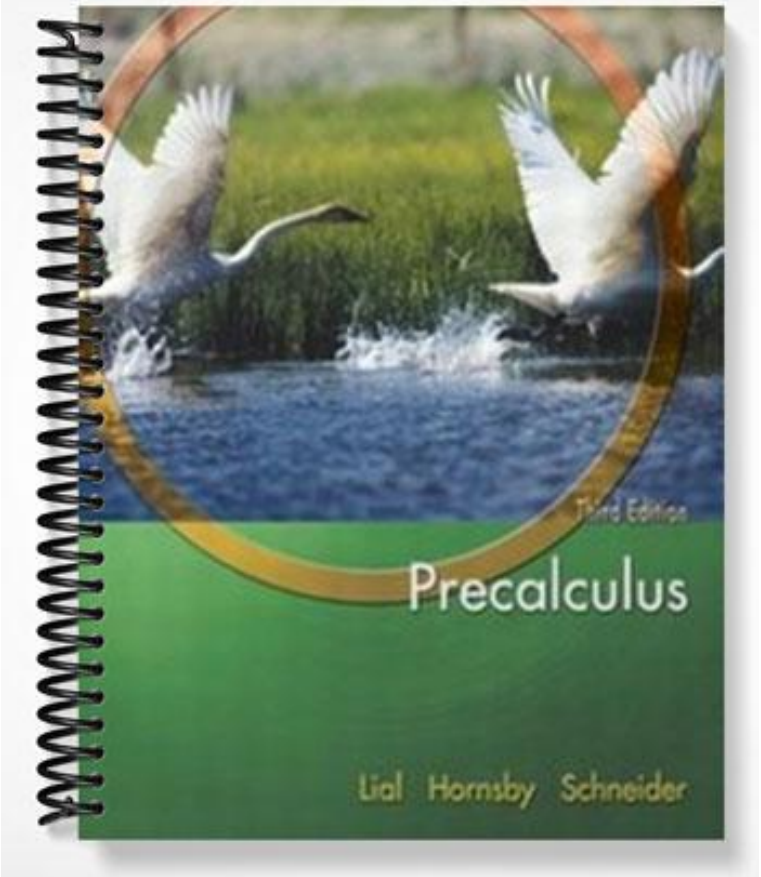
TEST BANK



PRETEST, FORM B NAME_____
COLLEGE ALGEBRA AND TRIGONOMETRY DATE

Choose the best answer.

1. Identify all irrational numbers in the list $-\frac{12}{7}, \sqrt{7}, \sqrt{25}, \pi, \frac{0}{8}, 16.2, \frac{3}{5}, 12.$ **1.** _____

a. $\sqrt{7}, \sqrt{25}, \pi$ **b.** $\sqrt{7}, \sqrt{25}, \pi, \frac{0}{8}$

c. $\sqrt{7}, \sqrt{25}, \pi, 16.2$ **d.** $\sqrt{7}, \pi$

Choose the smallest number in each group.

2. **a.** $|-11|$ **b.** $-|-7|$ **2.** _____

c. $-|2|$ **d.** $|1|$

3. **a.** $-\frac{5}{3}$ **b.** $-\frac{7}{3}$ **3.** _____

c. $-\sqrt{9}$ **d.** 0

4. Write without absolute value bars. $-|-4|-|-2|$ **4.** _____

a. -6 **b.** -2

c. 2 **d.** 6

5. Write without exponents. $\frac{1}{3^{-4}}$ **5.** _____

a. $\frac{1}{81}$ **b.** 81

c. -81 **d.** $-\frac{1}{12}$

6. Simplify. $\left(\frac{r^2m^{-1}}{r^3m^2}\right)^{-2}$ **6.** _____

a. r^2m^2 **b.** $\frac{1}{r^2m^2}$

c. r^2m^6 **d.** $\frac{1}{r^2m^6}$

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Perform the indicated operation.

7. $(x^2-3x+7)+(4x^3-6x^2-5x+4)$ **7.** _____

a. $4x^5-6x^4-8x^2+11$ **b.** $4x^3-5x^2-8x+11$

c. $4x^3-5x^2-2x+11$ **d.** $4x^3-7x^2-8x+11$

8. $(4x-7)(3x+2)$ **8.** _____

a. $12x^2-13x-14$ **b.** $12x^2+14x$

c. $12x^2-13x+14$ **d.** $12x^2-14$

9. $4x^2y(6x^3y^2-5xy^5)$ **9.** _____

a. $24x^6y^2-20x^2y^5$ **b.** $10x^6y^2-x^2y^5$

c. $10x^5y^3-x^3y^6$ **d.** $24x^5y^3-20x^3y^6$

10. $(5x-4w)^2$ **10.** _____

a. $25x^2-16w^2$ **b.** $25x^2+16w^2$

c. $25x^2-40wx+16w^2$ **d.** $25x^2-20wx+16w^2$

Divide.

11. $\dfrac{24x^3+4x^2-16x+2}{8x^2}$ **11.** _____

a. $3x+\dfrac{1}{2}-\dfrac{2}{x}+\dfrac{1}{4x^2}$ **b.** $3x+2-\dfrac{2}{x}+\dfrac{4}{x^2}$

c. $3x+4-\dfrac{2}{x}+\dfrac{1}{6x^2}$ **d.** $3x^2+\dfrac{x}{2}-2+\dfrac{1}{x}$

12. $\dfrac{x^3-2x^2-5x+6}{x-3}$ **12.** _____

a. x^2-x-2 **b.** x^2+x-2

c. x^2+x+2 **d.** $x^2-5x+10+\dfrac{-24}{x-3}$

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Factor completely.

13. $12y^2 - 7y - 12$ **13.** _____

a. $(6y - 4)(2y + 3)$ **b.** $(6y + 4)(2y - 3)$
c. $(4y + 3)(3y - 4)$ **d.** $(4y - 3)(3y + 4)$

14. $25x^2 - 9y^2$ **14.** _____

a. $(5x + 3y)(5x - 3y)$ **b.** $(5x + 3y)^2$
c. $(5x - 3y)^2$ **d.** Prime

Perform the indicated operations.

15. $\dfrac{x^2 - y^2}{4a^5b^7} \div \dfrac{x^2 + 3xy + 2y^2}{12a^3b^{12}}$ **15.** _____

a. $\dfrac{3b^5}{2a^2}$ **b.** $\dfrac{3b^5(x + y)}{a^2(x - 2y)}$
c. $\dfrac{3b^5(x - y)}{a^2(x + 2y)}$ **d.** $\dfrac{a^2(x - y)}{3b^2(x + 2y)}$

16. $\dfrac{1}{2x} - \dfrac{2}{3y} + \dfrac{5}{6xy}$ **16.** _____

a. $\dfrac{2}{3xy}$ **b.** $\dfrac{3y - 4x + 5}{6xy}$
c. $3y - 4x + 5$ **d.** $\dfrac{4x - 3y + 5}{6xy}$

Simplify the expression. All variables represent positive numbers.

17. $4\sqrt{24} - 5\sqrt{54}$ **17.** _____

a. $-7\sqrt{6}$ **b.** $-\sqrt{30}$
c. $13\sqrt{6}$ **d.** $-\sqrt{1296}$

18. $\dfrac{-5}{\sqrt{8}}$ **18.** _____

a. $\dfrac{1}{\sqrt{3}}$ **b.** $\dfrac{-5}{2\sqrt{4}}$
c. $\dfrac{-5\sqrt{2}}{4}$ **d.** $\dfrac{-20}{\sqrt{2}}$

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19. $27^{-4/3}$ **19.** _____

a. $\frac{1}{81}$ **b.** –36

c. $-\frac{1}{36}$ **d.** –81

20. $\frac{2p^{1/4}(3p^{-1/2})}{p^{3/2}}$ **20.** _____

a. $\frac{6}{p^{11/2}}$ **b.** $\frac{6p^{3/4}}{p^{3/2}}$

c. $\frac{6}{p^{7/4}}$ **d.** $\frac{6p^{1/2}}{p^{3/2}}$

Solve the equation.

21. $4m - (7m - 6) = -m$ **21.** _____

a. {–3} **b.** $\left\{\frac{3}{2}\right\}$

c. $\left\{-\frac{3}{2}\right\}$ **d.** {3}

22. $-\frac{5}{3}+\frac{2}{r-1}=\frac{1}{6}$ **22.** _____

a. $\left\{\frac{11}{6}\right\}$ **b.** $\left\{\frac{23}{11}\right\}$

c. $\left\{\frac{23}{6}\right\}$ **d.** {2}

23. Solve $x=\frac{4(y-z)}{3k}$ for y. **23.** _____

a. $y=\frac{4}{3kx+4z}$ **b.** $y=\frac{4}{kx-z}$

c. $y=\frac{3kxz}{4}$ **d.** $y=\frac{3kx+4z}{4}$

24. A lot is in the shape of a rectangle with a perimeter of 26 meters. The length is 4 meters more than twice the width. Find the length of the lot. **24.** _____

a. 7 meters **b.** 10 meters

c. 3 meters **d.** 13 meters

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Solve the equation or inequality.

25. $2z^2 + z = 28$ **25.** _____

a. $\{-4, 3\}$ **b.** $\{4, -3\}$

c. $\left\{-4, \frac{7}{2}\right\}$ **d.** $\left\{4, -\frac{7}{2}\right\}$

26. $2\sqrt{x} = \sqrt{3x+16}$ **26.** _____

a. $\left\{\frac{16}{7}\right\}$ **b.** $\{-16\}$

c. $\{16\}$ **d.** $\left\{-\frac{16}{7}\right\}$

27. $-6y + 2 \geq 4y - 7$ **27.** _____

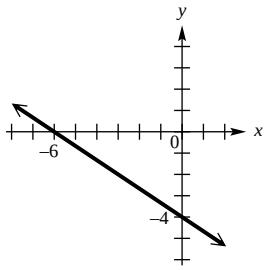
a. $\left(-\infty, -\frac{9}{10}\right]$ **b.** $\left[\frac{1}{2}, \infty\right)$

c. $\left[\frac{9}{10}, \infty\right)$ **d.** $\left(-\infty, \frac{9}{10}\right]$

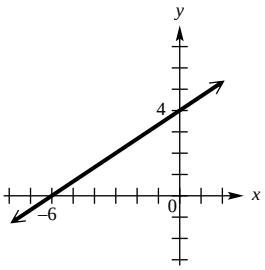
Graph the equation.

28. $2x + 3y = -12$ **28.** _____

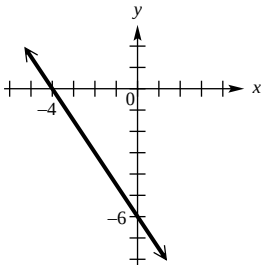
a.



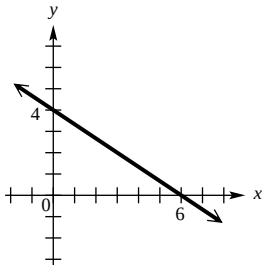
b.



c.



d.



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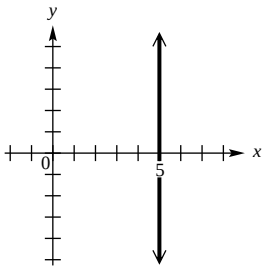
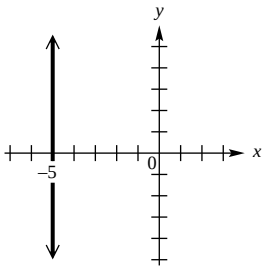
29. $y - 5 = 0$

a.

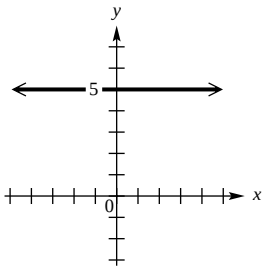


b.

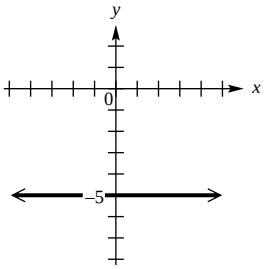


29. _____

c.

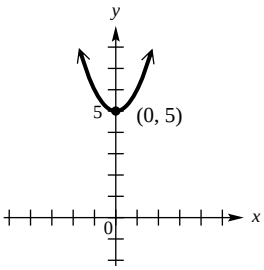


d.

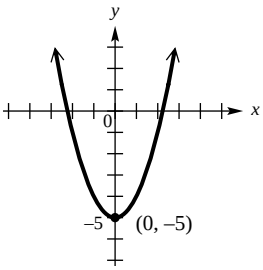


30. $y = x^2 - 5$

a.

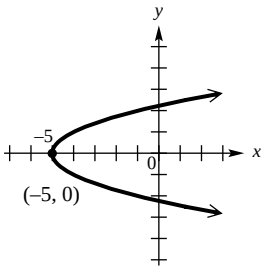


b.



30. _____

c.



d.