

Aim: How do we prepare for the math college placement exam (Trinity)?

Get Ready: Begin the Trinity College Placement Review Packet.

Simplify: $\frac{2x}{4-x^2} + \frac{1}{2+x}$

1. a) $\frac{1}{2-x}$ b) $\frac{1}{2+x}$ c) $\frac{x+2}{4-x^2}$ d) $\frac{2x-5}{4-x^2}$ e) $\frac{3x+2}{4-x^2}$

Solve for y: $y^2 + 5y - 6 = 0$

2. a) $\{-1, 6\}$ b) $\{-1, -6\}$ c) $\{-6, 1\}$ d) $\{2, -3\}$ e) $\{2, 3\}$

Find the value of k for which $x^2 + 8x + k$ is a perfect square.

3. a) 3 b) 4 c) 9 d) 12 e) 16

Find the value of $(-27)^{2/3}$

4. a) 9 b) $3\sqrt{3}$ c) $\frac{1}{9}$ d) -9 e) -243

. The value of 83 coins consisting of dimes and nickels is \$5.75. Find the number of nickels.

5. a) 15 nickels b) 32 nickels c) 51 nickels d) 53 nickels e) 57 nickels

Find the value of $(3)(2^n)(5^k)$ if $n = -3$ and $k = 0$

6. a) $\frac{1}{24}$ b) $\frac{3}{8}$ c) $-\frac{3}{8}$ d) -24 e) -216

Simplify: $\sqrt{18} + \sqrt{8}$

7. a) $5\sqrt{2}$ b) $6\sqrt{2}$ c) $36\sqrt{2}$ d) $\sqrt{50}$ e) $2\sqrt{3} + 2\sqrt{2}$

Solve for both x and y:

$$3y + 2x = 20$$

$$y - 4x = 9$$

8. a) $\left(\frac{47}{14}, \frac{157}{7}\right)$ b) $\left(\frac{1}{2}, 11\right)$ c) $\left(-\frac{1}{7}, \frac{59}{7}\right)$ d) $\left(-\frac{1}{2}, 7\right)$ e) $(-2, 1)$

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Find the length of the line segment joining points $A(-2,3)$ and $B(6,9)$.

9. a) $\frac{3}{4}$ b) $\sqrt{52}$ c) 10 d) 12 e) $\sqrt{157}$

5. Find an equation of the line through $P(4,5)$ with slope $m = -3$.

10. a) $y = 3x - 17$ b) $y = \frac{5}{4}x - 3$ c) $y = -3x + 5$ d) $y = -3x + 7$ e) $y = -3x + 17$

Find $|1 - |x||$, if $x = -7$.

11. a) -8 b) -6 c) 6 d) 7 e) 8

Find $g(f(13))$, if $f(x) = 3x + 1$ and $g(x) = \sqrt{x + 9}$

12. a) -7 b) 7 c) $\sqrt{48}$ d) $40\sqrt{22}$ e) $(3\sqrt{22} + 1)$

13. Which of the following is sets is the domain of H ?

$$H(x) = \frac{\sqrt{x+2}}{x-4}$$

- a) $\{x \mid x \text{ is a real number}\}$ b) $\{x \mid x \neq 4\}$ c) $\{x \mid x \geq 2 \text{ and } x \neq 4\}$ d) $\{x \mid x \geq -2 \text{ and } x \neq 4\}$
e) $\{x \mid x > -2 \text{ and } x \neq 4\}$

l. A rectangular field of length x and width y is surrounded by a fence of length 240 feet. Express the field's area A as a function of x alone.

14. a) $A = 120x - 2x^2$ b) $A = 120x - x^2$ c) $A = 240x - x^2$ d) $A = 240x - 2x^2$ e) $A = \frac{240}{x}$

. Solve for x : $|3x - 2| = 10$

15. a) $\left\{-\frac{8}{3}, \frac{8}{3}\right\}$ b) $\{-4, 4\}$ c) $\left\{-4, -\frac{8}{3}\right\}$ d) $\left\{4, -\frac{8}{3}\right\}$ e) $\left\{4, \frac{8}{3}\right\}$