

Exam

Name _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Provide an appropriate response.

1) Solve: $\frac{2}{3}x - 4 = 3$ 1) _____

2) Solve: $\frac{6y}{7} = -\frac{3}{5}$ 2) _____

3) Solve $2q - 1 = 2(1 - q)$ 3) _____

4) Solve: $0.4x - 3 = 6$ 4) _____

5) Solve: $\frac{x}{3} - 1 = \frac{x}{5}$ 5) _____

6) Solve: $2(t - 1) - 3(t - 4) = 4t$ 6) _____

7) Solve: $\frac{3}{2}(4x - 3) = 2[x - (4x - 3)]$ 7) _____

8) Solve: $\frac{x - 4}{3} - \frac{x + 2}{3} = \frac{x - 27}{4}$ 8) _____

9) Solve: $x(x - 2) - (x + 1)^2 = 3$ 9) _____

10) Solve: $(x + 1)^2 - 2x = x^2 + 2$ 10) _____

11) Solve the equation $S = P(1 + rt)$ for t . 11) _____

12) The relationship between the temperature F on the Fahrenheit scale and the corresponding temperature C on the Celsius scale is given by $\frac{C}{100} = \frac{F - 32}{180}$. Convert 77°F into a Celsius temperature. 12) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

13) Solve: $\frac{4x}{9} + \frac{5x}{-6} = -\frac{3x}{2} + \frac{4}{3}$ 13) _____

A) $\frac{6}{5}$

B) $\frac{5}{3}$

C) $\frac{5}{6}$

D) $\frac{19}{18}$

E) 0

14) If $\frac{x}{5} + \frac{x-5}{10} = 7$, solve for x. 14) _____

A) $\frac{2}{3}$ B) 6 C) 25 D) 4 E) $\frac{32}{15}$

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15) Solve the equation: $0.4(x + 1.3) = 1.9$ 15) _____

16) Solve the equation: $\frac{3x+5}{7} = \frac{2(5-x)}{4}$ 16) _____

17) Solve the equation: $(1 - 2x)^2 - 4(3 - x)^2 = 5$ 17) _____

18) Solve the equation: $(3x - 1)^2 - 9(1 + x)^2 = 16$ 18) _____

19) Solve the equation: $(1 - 5x)^2 - 25(x - 1)^2 = 16$ 19) _____

20) Solve: $\frac{2x-3}{x} = 3$ 20) _____

21) Solve: $\frac{4}{x} - \frac{3}{x-2} = \frac{7}{x}$ 21) _____

22) Solve: $\frac{8}{x^2-1} = \frac{1}{x+1} - \frac{1}{x-1}$ 22) _____

23) Solve: $\sqrt{x^2-9} = x-1$ 23) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

24) Solve for x: $\frac{6x-5}{4x-5} = \frac{3x+5}{2x+5}$ 24) _____

- A) $\frac{5}{6}$ B) $-\frac{5}{3}$ C) 3 D) 0 E) 2

25) Solve for x: $\frac{2x}{x-4} + \frac{1}{3} = 1$ 25) _____

- A) 8 B) 0 C) -8 D) -2 E) 2

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

26) Solve: $\sqrt{x-1} = \sqrt{x-1}$ 26) _____

27) Solve: $\sqrt{2x+3} - \sqrt{2x-3} = 1$ 27) _____

- 28) Solve: $\sqrt{4x^2 + 5} - 1 = 2(x + 2)$ 28) _____
- 29) Solve: $x^2 - 7x - 8 = 0$ 29) _____
- 30) Solve: $9x^2 - 4 = 0$ 30) _____
- 31) Solve: $2x^2 - 9x + 4 = 0$ 31) _____
- 32) Solve: $4x^2 - 4x + 1 = 0$ 32) _____
- 33) Solve: $\frac{6}{x^2 - 1} = \frac{3}{x + 1} + 1$ 33) _____
- 34) Solve: $2x^2 - 2x - 1 = 0$ 34) _____
- 35) Solve the equation by factoring: $6x^2 + 13x + 5 = 0$ 35) _____
- 36) Solve: $2 + \frac{1}{x} = 4x$ 36) _____
- 37) Solve: $6x^4 - 13x^2 + 5 = 0$ 37) _____
- 38) Solve: $x^4 - 8x^2 + 15 = 0$ 38) _____

Answer Key

Testname: UNTITLED2

1) $x = \frac{21}{2}$

2) $y = -\frac{7}{10}$

3) $q = \frac{3}{4}$

4) $x = \frac{45}{2}$

5) $x = \frac{15}{2}$

6) $t = 2$

7) $x = \frac{7}{8}$

8) $x = 19$

9) $x = -1$

10) No solution

11) $t = \frac{S - P}{Pr}$

12) 25° C

13) A

14) C

15) $x = 3.45$

16) $x = \frac{25}{13}$

17) $x = 2$

18) $x = -1$

19) $x = 1$

20) $x = -3$

21) $x = 1$

22) no solution

23) $x = 5$

24) D

25) D

26) $x = 1$

27) $x = \frac{37}{8}$

28) $x = -\frac{3}{4}$

29) $x = -1, 8$

30) $x = \pm \frac{2}{3}$

31) $x = 4, \frac{1}{2}$

32) $x = \frac{1}{2}$

33) $x = -5, 2$

Answer Key

Testname: UNTITLED2

$$34) x = \frac{1 \pm \sqrt{3}}{2}$$

$$35) x = -\frac{1}{2}; -\frac{5}{3}$$

$$36) \frac{1 \pm \sqrt{5}}{4}$$

$$37) x = \pm \frac{1}{\sqrt{2}}; \pm \sqrt{\frac{5}{3}}$$

$$38) x = \pm \sqrt{3}; \pm \sqrt{5}$$