

- 11) The sum of three consecutive odd integers is -267 . What are the integers?
 a) $-91, -89, -87$ b) $77, 79, 81$ c) $-87, -85, -83$ d) $89, 91, 93$
 e) none of these
- 12) Solve for x : $2 - 7x \leq 8$
 a) $x \leq -\frac{6}{7}$ b) $x \geq -\frac{6}{7}$ c) $x \geq \frac{6}{7}$ d) $x \leq \frac{6}{7}$
 e) none of these
- 13) Multiply: $(3x - 5y)(2x + 7y)$
 a) $6x^2 - 11xy + 35y^2$ b) $6x^2 - 31xy - 35y^2$ c) $6x^2 + xy + 35y^2$ d) $6x^2 + 11xy - 35y^2$
 e) none of these
- 14) Simplify: $(2x - 3)^2$
 a) $4x^2 - 12x + 9$ b) $4x^2 + 12x + 9$ c) $4x^2 + 9$ d) $4x^2 - 9$
 e) none of these
- 15) Simplify and express with positive exponents: $\left(\frac{y^5}{x^3}\right)^{-3}$
 a) $x^{15}y^9$ b) $\frac{x^{15}}{y^9}$ c) x^9y^{15} d) $\frac{x^9}{y^{15}}$
 e) none of these
- 16) Simplify and express with positive exponents: $(-2x^2)^3 \cdot (3y)^{-2}$
 a) $-72x^6y^2$ b) $\frac{-8x^6}{9y^2}$ c) $72x^6y^2$ d) $\frac{1}{72x^6y^2}$
 e) none of these
- 17) Factor the following completely: $27x^2 - 12$
 a) $9(x - 3)(x - 4)$ b) $3(3x - 2)(3x + 2)$ c) $(9x + 4)(x - 3)$ d) $(9x - 4)(9x + 3)$
 e) none of these
- 18) Factor the following completely: $3x^2 + 3x - 2x - 2$
 a) $(x + 1)(3x - 2)$ b) $(x - 2)(3x - 1)$ c) $(x + 1)(3x + 2)$ d) $(x - 1)(3x + 2)$
 e) none of these
- 19) Factor the following completely: $6x^2 + x - 15$
 a) $(3x + 5)(2x + 3)$ b) $(2x + 3)(3x - 5)$ c) $(3x + 5)(2x - 3)$ d) $(2x - 5)(3x + 3)$
 e) none of these
- 20) Divide: $\frac{x^2 + 2x - 15}{x^2 - x - 6} \div \frac{x^2 - 25}{x^2 - 4}$
 a) $\frac{x - 5}{x + 2}$ b) $\frac{x - 2}{x - 5}$ c) $\frac{x - 5}{x - 2}$ d) $\frac{x + 2}{x - 5}$
 e) none of these
- 21) Add and subtract the following: $\frac{3}{x - 2} + \frac{5}{x^2 + 4x - 12} - \frac{4}{x + 6}$
 a) $\frac{15 - x}{(x + 2)(x - 6)}$ b) $\frac{31 - x}{(x - 2)(x + 6)}$ c) $\frac{7x + 31}{(x - 2)(x + 6)}$ d) $\frac{15 - x}{(x - 2)(x + 6)}$
 e) none of these

22) Simplify the following: $\frac{\frac{2}{7} + \frac{5}{x}}{\frac{3}{7x}}$

- a) $\frac{2x+35}{3}$ b) $\frac{3}{2x+35}$ c) $\frac{7}{3}$ d) $\frac{3}{7x}$
 e) none of these

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

- a) 1 b) 3 c) -1 d) -3
 e) none of these

24) Paul can mow a lawn in 3 hours. Sally can mow the same lawn in 2 hours. How long will it take if they mow the lawn together?

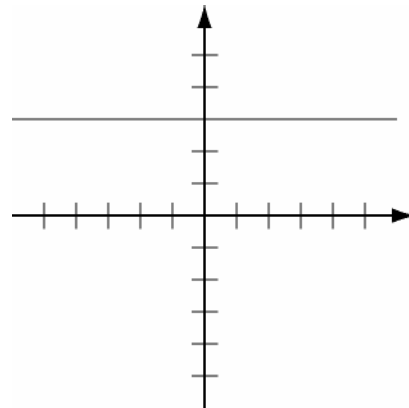
- a) 2.5 hours b) 5 hours c) $\frac{6}{5}$ hours d) $\frac{5}{6}$
 e) none of these

25) Find the slope: $5x + 6y = 10$

- a) $\frac{6}{5}$ b) $-\frac{6}{5}$ c) $\frac{5}{6}$ d) $-\frac{5}{6}$
 e) none of these

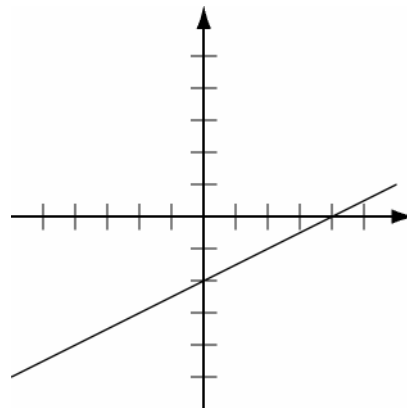
26) The following graph represents

- a) $x = 3$
 b) $y = 3$
 c) $x = -3$
 d) $y = -3$
 e) none of these



27) The following graph represents

- a) $y = \frac{1}{2}x - 2$
 b) $y = \frac{1}{2}x + 2$
 c) $y = 2x - 2$
 d) $y = -\frac{1}{2}x + 2$
 e) none of these



- 28) The equation of the line through $(6, 4)$ with a slope of -2 is
- a) $y = 2x - 2$ b) $y = -2x + 16$ c) $y = 2x + 16$ d) $y = -2x - 16$
 e) none of these

29) The following graph represents

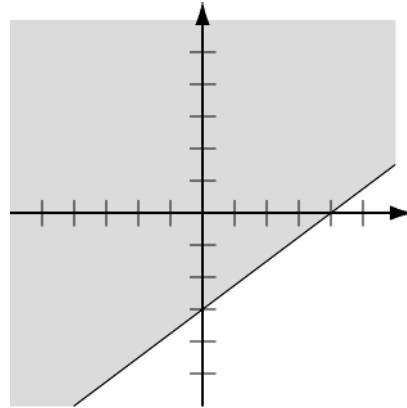
a) $y \geq \frac{2}{3}x - 3$

b) $y \geq \frac{3}{4}x - 3$

c) $y \leq \frac{4}{3}x - 3$

d) $y < \frac{3}{4}x - 3$

e) none of these



30) Find the slope of the line between the points $(-\frac{1}{2}, 2)$ and $(0, \frac{3}{2})$.

a) $\frac{1}{2}$

b) $-\frac{1}{2}$

c) -1

d) 1

e) none of these

31) Solve for x : $x + 2y = 4$
 $2x + 3y = 5$

a) $(2, -3)$

b) $(-2, 3)$

c) $(3, 2)$

d) $(2, 3)$

e) none of these

32) Nelson has a coin collection containing dimes and nickels. He has 35 coins worth \$2.50. How many of each type of coin does he have?

a) 5 dimes, 3 nickels

b) 18 dimes, 17 nickels

c) 20 dimes, 15 nickels

d) 15 dimes, 20 nickels

e) none of these

33) Simplify the following: $\sqrt{28x^4y^3}$

a) $2x^2y\sqrt{7y}$

b) $2x^4y^2\sqrt{7y}$

c) $2x^2y^2\sqrt{7}$

d) $7y\sqrt{2x^2y}$

e) none of these

34) Multiply: $3\sqrt{2}(\sqrt{8} + 2\sqrt{5})$

a) $24\sqrt{2} - 10\sqrt{6}$

b) $24\sqrt{2} + 10\sqrt{6}$

c) $12 + 6\sqrt{10}$

d) $\sqrt{12} + 6\sqrt{10}$

e) none of these

35) Add: $2\sqrt{3a} + 5\sqrt{75a} + \sqrt{27a}$

a) $25\sqrt{3a}$

b) $35\sqrt{3a}$

c) $30a\sqrt{3}$

d) $30\sqrt{3a}$

e) none of these

36) Rationalize the denominator: $\frac{2}{3 - \sqrt{5}}$

a) $\frac{3 + \sqrt{5}}{2}$

b) $3 + \sqrt{5}$

c) $\frac{3 - \sqrt{5}}{2}$

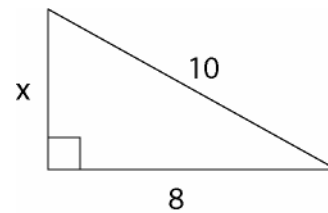
d) $3 - \sqrt{5}$

e) none of these

- 37) Solve the following for x : $x^2 - 8x = 20$
- a) 2 and -10 b) 2 c) -10 d) 10 and -2
 e) none of these
- 38) Solve the following for x : $x^2 + 6x - 5 = 0$
- a) $\frac{-6 \pm \sqrt{14}}{2}$ b) $-6 \pm \sqrt{56}$ c) $-3 \pm \sqrt{14}$ d) -1 and -5
 e) none of these
- 39) $(x-3)^2 = 16$
- a) -7, 1 b) 7, -1 c) 7, 1 d) $\pm\sqrt{62}$
 e) none of these

40) Given the following right triangle, find the length of side x .

- a) 9
 b) 2
 c) 36
 d) 6
 e) none of these



Math 094
Final Exam Review Answers
Revised Fall 2007

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|-----|-----|----------------------|-----|-----|---------------------------|
| 1) | (c) | -20 | 21) | (b) | $\frac{31-x}{(x-2)(x+6)}$ |
| 2) | (b) | 29 | 22) | (a) | $\frac{2x+35}{3}$ |
| 3) | (b) | 3 | 23) | (d) | -3 |
| 4) | (a) | $-3x+8y$ | 24) | (c) | $\frac{6}{5}$ hours |
| 5) | (b) | $-\frac{1}{9}$ | 25) | (d) | $-\frac{5}{6}$ |
| 6) | (d) | 6 | 26) | (b) | $y=3$ |
| 7) | (a) | $\frac{1}{2}$ | 27) | (a) | $y=\frac{1}{2}x-2$ |
| 8) | (d) | 20 feet | 28) | (b) | $y=-2x+16$ |
| 9) | (d) | $4(x+3)=16$ | 29) | (b) | $y\geq\frac{3}{4}x-3$ |
| 10) | (a) | $\frac{5A-160}{9}$ | 30) | (c) | -1 |
| 11) | (a) | $-91, -89, -87$ | 31) | (b) | $(-2, 3)$ |
| 12) | (b) | $x\geq-\frac{6}{7}$ | 32) | (d) | 15 dimes, 20 nickels |
| 13) | (d) | $6x^2+11xy-35y^2$ | 33) | (a) | $2x^2y\sqrt{7y}$ |
| 14) | (a) | $4x^2-12x+9$ | 34) | (c) | $12+6\sqrt{10}$ |
| 15) | (d) | $\frac{x^9}{y^{15}}$ | 35) | (d) | $30\sqrt{3a}$ |
| 16) | (b) | $\frac{-8x^6}{9y^2}$ | 36) | (a) | $\frac{3+\sqrt{5}}{2}$ |
| 17) | (b) | $3(3x-2)(3x+2)$ | 37) | (d) | 10 and -2 |
| 18) | (a) | $(x+1)(3x-2)$ | 38) | (c) | $-3\pm\sqrt{14}$ |
| 19) | (c) | $(3x+5)(2x-3)$ | 39) | (b) | $7, -1$ |
| 20) | (b) | $\frac{x-2}{x-5}$ | 40) | (d) | 6 |

