# Algebra 1 – 3rd Edition – On-line Test 28 – July 2005

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1. Factor: $xy + 4y + xz + 4z$

[A] $(x + z)(y + 4)$ [B] $4x(y^2 + z^2)$ [C] $(x + y)(z + 4)$

[D] $(x + 4)(y + z)$ [E] None of these

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2. Find the equation of the line that goes through points ( 1, 6 ) and ( 3, 10 ).

[A] $y = -2x + 4$ [B] $y = 4x + 2$ [C] $y = 2x + 4$

[D] $y = 7x + 13$ [E] None of these

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3. Find the equation of the line that passes through ( 1, 8 ) and is parallel to y = 3x - 4

[A] $y = -5x + 3$ [B] $y = 3x + 8$ [C] $y = 3x + 5$

[D] $y = -4x + 3$ [E] None of these

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4. Solve: $\sqrt{x - 7} - 4 = 0$

[A] x = - 9 [B] x = 3 [C] x = 15 [D] x = 23 [E] None of these

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5. Factor: $- a^3 - 12\ a^2 - 24a$

[A] $12\ ( a^2 - a - 2 )$ [B] $- a\ ( a^2 + 12a + 24 )$

[C] $- 12a\ ( 2 + a + a^2 )$ [D] $- a\ ( a^2 - 12a - 24)$ [E] None of these

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6. If f(x) = | x | – 3, then the graph of f shifted vertically 3 units up can be represented by what equation ?

[A] F(x) = | x +3 | [B] F(x) = | x | + 3 [C] F(x) = 3| x | - 3

[D] F(x) = | x | [E] None of these

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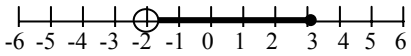
7. What inequality corresponds to this graph ?




[A] $-2 > x \geq 3$ [B] $-2 < x < 3$ [C] $-2 \geq x > 3$ [D] $-2 < x \leq 3$ [E] None of these

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8. Multiply: (2x+3)(5x-7)

[A] $7x^2 - 6x - 21$ [B] $10x^2 - 21$ [C] $2x + 15x - 7$

[D] $10x^2 + 29x - 21$ [E] None of these

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9. Multiply: $( 3 + \sqrt{3} ) ( 4 + 3\sqrt{3} )$

[A] $21 + 13\sqrt{3}$ [B] $12 + 3\sqrt{3}$ [C] $3 + 7\sqrt{3}$

[D] $12 + 7\sqrt{3} + 6$ [E] None of these

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10. Find the equation of the line that goes through points ( 3, - 3 ) and ( - 3, 3 ).

[A] y = x – 1 [B] y = - 3 [C] y = - x [D] y = | x | [E] None of these

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11. Factor: $2x^2 + 5x + 3$

[A] (6x + 5)(x + 2) [B] (2x + 3)(x + 1) [C] (2x + 5)(x + 3)

[D] (2x + 1)(x + 3) [E] None of these

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12. Simplify $| - ( 4^{-2} ) | - 4$

[A] $-\frac{65}{16}$ [B] $\frac{1}{16}$ [C] $-\frac{1}{4}$ [D] $-\frac{63}{16}$ [E] None of these

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13. Simplify: $3\sqrt{20} + 4\sqrt{12} + 5\sqrt{20} + 3\sqrt{5}$

[A] $8\sqrt{3} + 19\sqrt{5}$ [B] $15 + 4\sqrt{12} + 5\sqrt{20}$ [C] $8\sqrt{20} + 4\sqrt{12} + 19\sqrt{5}$

[D] $27\sqrt{15}$ [E] None of these

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14. The sum of four numbers is 1600.24. The first three are 240, 16, and 600. What is the ***average*** of the four numbers ?

[A] 400.6 [B] 285.33 [C] 214 [D] 400.06 [E] None of these

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15. Find the equation of the line that goes through the point ( 3, 2 )
and has a slope of $-\frac{3}{2}$

[A] $y = \frac{2}{3}x - \frac{3}{2}$ [B] $y = -\frac{3}{2}x + \frac{13}{2}$ [C] $y = -\frac{3}{2}x + 6$

[D] $y = \frac{7}{6}x - \frac{3}{2}$ [E] None of these

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16. Simplify: $\frac{\left(180 \times 10^{3}\right)\left(3000 \times 10^{5}\right)}{\left(.135 \times 10^{3}\right)\left(2 \times 10^{4}\right)}$

[A] $2 \times 10^{7}$ [B] 20 [C] $2 \times 10^{32}$ [D] $2.7 \times 10^{19}$ [E] None of these

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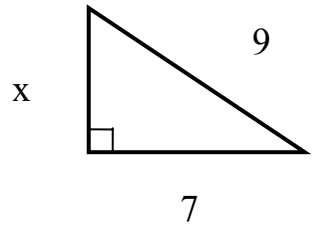
17. Find x.

[A] $2$ [B] 16 [C] $8$ [D] $7\sqrt{3}$ [E] None of these

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18. Solve: $\sqrt{x-1}-4=3$

[A] 8 [B] 7 [C] $\sqrt{7}$ [D] 50 [E] None of these

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19. What is the (approximate) volume of a right circular cone with a base radius of 10 cm and a height of 6 cm ?

[A] 628 $cm^3$ [B] 1884 $cm^3$ [C] 188.4 $cm^3$ [D] 376.8 $cm^3$ [E] None of these

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20. Find y if $y^2-20=380$

[A] $60$ [B] $6\sqrt{10}$ [C] $\pm\ 20$ [D] $\pm\ 6\sqrt{10}$ [E] None of these

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