

Algebra 1 – 3rd Edition – On-line Test 24 – July 2005

1. Large pies cost \$5, and small pies cost \$2. If 45 pies were sold for \$120, how many small pies were sold ?

- [A] 2.5 [B] 10 [C] 35 [D] 60 [E] None of these

2. Which inequality is graphed on the number line at right ? 

- [A] $x \leq -1$ [B] $-x < 1$ [C] $-x \leq -1$ [D] $-x \not\leq -1$ [E] None of these

3. The sum of two numbers is 36. The difference is 14. What are the numbers ?

- [A] 12, 24 [B] 25, 11 [C] 12, 16 [D] 14, 22 [E] None of these

4. Simplify: $\frac{1}{-3^{-3}}$

- [A] $\frac{1}{9}$ [B] -27 [C] $\sqrt[3]{-3}$ [D] $-\frac{1}{27}$ [E] None of these

5. Joe walked into the jungle in 6 hours. He ran back to the camp in 1 hour. How far away was the jungle if Joe ran 4 miles per hour faster than he walked ?

- [A] $4\frac{4}{5}$ miles [B] 2 miles [C] 1 mile [D] 0.8 miles [E] None of these

6. Simplify: $\frac{x^2 - 4x}{x^2 - 16} \div \frac{x^2 + 2x - 24}{x^2 - 2x - 24}$

- [A] $\frac{x(x-6)}{(x+6)(x-4)}$ [B] $-x^2$ [C] $\frac{x}{x-4}$ [D] $\frac{x(x-4)(x+6)}{(x-6)(x+4)^2}$ [E] None of these

7. A bus leaves Johnstown at noon heading for Djibouti, 350 miles away. A bus leaves Djibouti at the same time, heading to Johnstown at 35 m.p.h. If the two buses meet at 7 PM, what is the rate of the first bus ?

- [A] 10 m.p.h. [B] 15 m.p.h. [C] 35 m.p.h. [D] 50 m.p.h. [E] None of these
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8. Find the volume of a sphere with a radius of 2 ft.

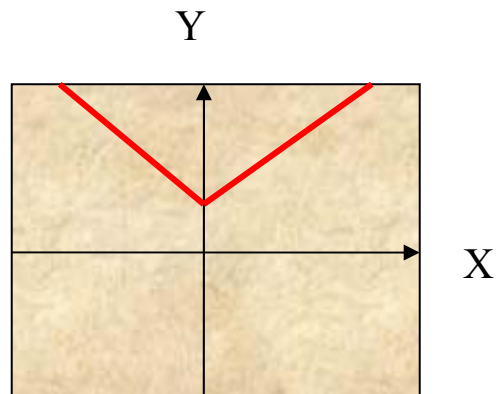
- [A] $8\pi \text{ ft}^3$ [B] $32\pi \text{ ft}^3$ [C] $24\pi \text{ ft}^3$ [D] $16\pi \text{ ft}^3$ [E] None of these
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9. Which equation has a graph that most resembles this shape ?

[A] $f(x) = 5 + |x|$ [B] $g(x) = x^2 + 1$

[C] $h(x) = 5 + \sqrt{x}$ [D] $k(x) = x^3 - 2$

[E] None of these



10. Solve: $y^2 = 18$

[A] $y = \pm 3\sqrt{2}$ [B] $y = \sqrt{\pm 18}$ [C] $y = 2\sqrt{\pm 3}$

[D] $y = 2\sqrt{3}$ [E] None of these

11. Teresa has \$3.60 in quarters and nickels. If she has 36 coins total, how many *quarters* does she have ?

- [A] 14 [B] 27 [C] 9 [D] 18 [E] None of these
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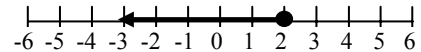
12. George drove to town at 60 miles per hour and drove back home at 30 miles per hour. What is the distance to town if the whole trip took 9 hours ?

- [A] 10 miles [B] $36\frac{2}{3}$ miles [C] 180 miles [D] 90 miles [E] None of these
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13. Books cost 50¢ and pamphlets 15¢ at the book sale. If Mr. Jones spent \$90 at the book sale and purchased 15 more pamphlets than he did books, how many pamphlets did he buy ?

- [A] 75 [B] 135 [C] $\frac{33}{4}$ [D] 150 [E] None of these
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14. Which equation is graphed on this number line ?



- [A] $-x < 2$ [B] $-4x + 12 \geq 4$ [C] $-x + 8 \geq 4$
[D] $-3x + 2 \geq 8$ [E] None of these
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15. Simplify: $\frac{x^2 + 7x + 12}{x^2 - 7x + 12} \cdot \frac{x^2 - 7x + 12}{x^2 - 16}$

- [A] $\frac{3 + x(4 + x)}{4 + x(4 + x)}$ [B] $\frac{x + 3}{x - 4}$ [C] $\frac{x^2 - 7x + 12}{-14x(x^2 - 16)}$
[D] $\frac{3}{x + 4} + \frac{x}{x - 4}$ [E] None of these
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16. Solve by factoring: $x^2 + 3x - 10 = 0$

- [A] $\pm \sqrt{10}$ [B] - 8, - 2 [C] 2, - 5 [D] - 2, 5 [E] None of these
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17. If $x + 15 = 19$, evaluate $x^3 - x^{-2} + 16x^{-1}$

- [A] $67\frac{15}{16}$ [B] 64 [C] 52 [D] $38148\frac{1}{2}$ [E] None of these
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18. There were 16 more nickels than dimes in the purse. If there were 100 coins total, how many *nickels* were there ?

- [A] 42 [B] 2.90 [C] 16 [D] 84 [E] None of these
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19. Solve: $x^2 = 14$

- [A] $x = 14^2$ [B] $x = 2\sqrt{7}$ [C] $x = \pm 2\sqrt{7}$
[D] $x = \pm \sqrt{14}$ [E] None of these
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20. Divide: $\frac{x^3 - 7}{x - 3}$

- [A] $x^2 + 3x + 3 - \frac{1}{x - 3}$ [B] $x^3 + 3x^2 + 3x - 1$
[C] $x^2 + 3x + 9 + \frac{20}{x - 3}$ [D] $x^2 + 3x + 9 - \frac{34}{x - 3}$ [E] None of these
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