

Algebra 1 – 3rd Edition – On-line Test 30 – July 2005

1. The number of apples in a basket varies directly as the number of oranges. If a basket with 60 apples has 12 oranges, how many apples are there in a basket with 30 oranges ?

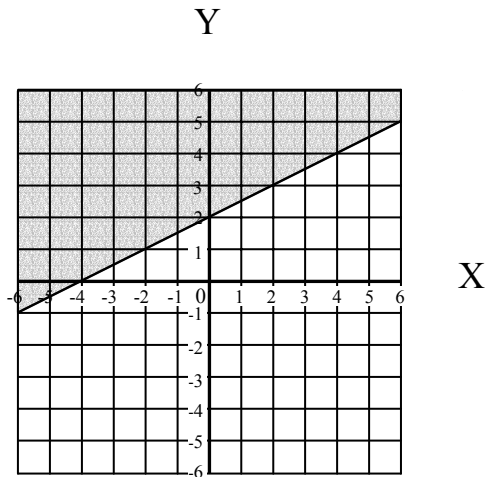
- [A] 6 [B] 24 [C] 12 [D] 15 [E] None of these

2. This shaded figure is a graph of which inequality ?

[A] $y > 1/2 x + 2$ [B] $y < 1/2 x + 2$

[C] $y \geq 1/2 x + 2$ [D] $y \leq 1/2 x + 2$

[E] None of these



3. Simplify: $\sqrt{\frac{4}{24}}$

- [A] $\frac{4}{\sqrt{6}}$ [B] $\frac{\sqrt{6}}{6}$ [C] $\sqrt{6}$ [D] $\frac{2}{\sqrt{6}}$ [E] None of these

4. A body's weight varies inversely with the square of its distance from the center of the earth; if a chicken weighs 20 pounds when it is 5000 miles from the earth's center, how much will the chicken weigh when it is 10000 miles from the earth's center ?

- [A] 40 pounds [B] 10 pounds [C] 5 pounds [D] 0.1 pounds [E] None of these

5. Solve: $-6x + 2 = -3x^2$

- [A] \emptyset [B] $\frac{6 \pm 2\sqrt{3}}{6}$ [C] $\frac{4 \pm \sqrt{11}}{24}$ [D] $\frac{2 \pm 3\sqrt{2}}{11}$ [E] None of these

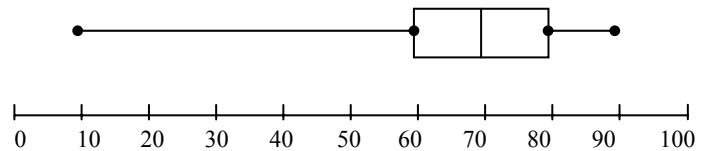
6. The number of toys in the closet vary inversely with the number of children in the room. If there are 28 toys in the closet when there are 4 children in the room, how many toys are in the closet when 7 children are in the room ?

- [A] 4 [B] 49 [C] 1 [D] 16 [E] None of these
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7. Solve: $x^2 + 4x - 21 = 0$

- [A] 4, - 21 [B] 4, - 17 [C] 7, - 3 [D] 21, 17 [E] None of these
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8. This box-and-whisker graph shows the test scores of 20 high-school students. What is the median of the scores ?



- [A] 80 [B] 60 [C] 90 [D] 70 [E] None of these
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9. Divide: $(x^3 - 6x^2 + 12x - 8) \div (x - 2)$

[A] $x^2 - 8x - 4$ [B] $x^2 - 8x - 4 - \frac{16}{x - 2}$

[C] $x^2 - 4x - 20 - \frac{48}{x - 2}$ [D] $x^2 - 4x + 4$ [E] None of these

10. Add: $\frac{m}{24b} + \frac{n}{60b^2}$

- [A] $\frac{bm + n}{24b^2}$ [B] $\frac{mn}{1440b^3}$ [C] $\frac{5bm + 2n}{120b^2}$ [D] $\frac{n + m}{1440b^3}$ [E] None of these
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11. The distance a falling object travels towards the earth is directly proportional to the square of the time that it falls. If an orange falls 16 feet in 4 seconds, how far will it fall in 16 seconds ?

- [A] 4 ft [B] 1024 ft [C] 64 ft [D] 256 ft [E] None of these
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12. Add: $b + \frac{2}{m} + \frac{y}{zm^2}$

- [A] $\frac{bzm^2 + 2zm + y}{zm^2}$ [B] $b + \frac{y}{z}$ [C] $\frac{2by}{m^3z}$ [D] $\frac{y + 2z + b}{zm}$ [E] None of these
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13. Simplify: $\sqrt{\frac{7}{11}}$

- [A] $\frac{7}{11}$ [B] $\frac{\sqrt{77}}{11}$ [C] $\frac{\sqrt{7}}{11}$ [D] $\frac{7}{\sqrt{11}}$ [E] None of these
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14. The ratio of rabbits to hares in the forest was 18 to 12. If there were 216 hares in the forest, how many rabbits were there ?

- [A] 324 [B] 129.6 [C] 144 [D] 540 [E] None of these
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15. Simplify: $\sqrt{400000000}$

- [A] $2000\sqrt{10}$ [B] 200000000 [C] 2000 [D] $16000\sqrt{5}$ [E] None of these
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16. Find the distance between points $(-3, 0)$ and $(8, -6)$

- [A] 10 [B] $\sqrt{61}$ [C] $\sqrt{157}$ [D] -1 [E] None of these
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17. Evaluate: $-m \pm \sqrt{m^2 - 4n}$ if $m = 6$ and $n = 5$

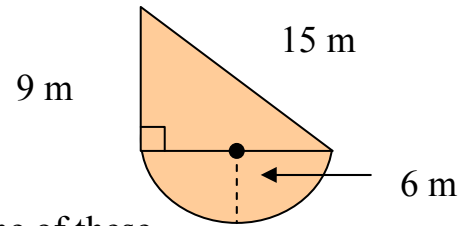
- [A] -6 [B] -5 ± 1 [C] -6, -4 [D] -10, -2 [E] None of these
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18. What fraction of $3\frac{1}{2}$ is $\frac{2}{3}$?

- [A] $\frac{4}{21}$ [B] $\frac{4}{9}$ [C] $5\frac{1}{4}$ [D] 1 [E] None of these
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19. Find the area of this figure.

- [A] $18\pi + 54 m^2$ [B] $36\pi + 108 m^2$
[C] $12\pi + 54 m^2$ [D] $12\pi + 108 m^2$ [E] None of these



20. How many square meters is 7,000,000 square centimeters ?

- [A] 70,000,000,000 m^2 [B] 7,000 m^2 [C] 700 m^2
[D] 0.007 m^2 [E] None of these
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