Order of Operations

1. 6+4-6=10-6=4
2. -8
3. 5x5-4=25-4=21
4. 6
5. 20-28=-8
6. 34
7. 50-25=25
8. 1
9. 60+1=61
10. 9
11. 3(9)-63=27-63=-36
12. 31
13. 8x5x3÷6=40x3÷6=120÷6=20
14. -10
15. 10(3-36)+4=10(-33)+4=-330+4=-326
16. 0.5
17. 32÷(16÷4)=32÷4=8
18. 13
19. 180÷(2+4)=180÷6=30
20. -18
21. $\frac{5+(30-7^2)}{11-4} = \frac{5+(30-49)}{7} = \frac{5-19}{7} = \frac{-14}{7} = -2$
22. -7
23. 5(14-13)+1=5+1=6
24. 6
25. 162÷(6x9) ÷3=162÷54÷3=3÷3=1

Operations with Signed Numbers

1) 5 2) -1 3) -20 4) -39 5) -6 6) 9
7) 26 8) -3 9) 1 10) -4 11) -15 12) 13

Multiply and Divide Signed Numbers

1) 15 2) -3 3) 8 4) 3 5) 5 6) -2
7) 7 8) -12 9) -2 10) -14 11) 20 12) -10

Rounding Numbers

1) 18.6 2) 25.1 3) 3.9 4) 37.0 5) 15.9
6) 0.3 7)100.9 8) 20.0 9) 17.1 10) 0.7

Evaluating Expressions

1. 3x5=15
2. 50
3. $3(5)^2$-4=75-4=71
4. 26
5. -4+4=0
6. 24
7. 5(-4)+6=-20+6=-14
8. -8
9. 5(5)-(-4+6)=25-8=17
10. -10
11. $5^2+(-4)^2+6^2$=25+16+36=77
12. 20
13. 5(6)+(-4-5)=30-9=21
14. 53
15. 4(5)+2(-4)-6=20-8-6=6
16. -12

Combining Like Terms

1) 11n 2) 40b 3) 41z
4) -4x 5) n+9 6) 9f+2
7) 3t+12 8)-6k+3 9) 7r+4y
10) 4g+4h 11) -2m+8n 12) -1a+14b

Graphing

6. (3,2) 7. (-1,4) 8. (0,1) 9. (4,-3)
10. (-1,-1) 11. (-4,0) 12. (-3,1) 13. (-4,-3)

Solving Equations

1. Subtract 3, x=2
2. w=14
3. Add 5, c=-3
4. p=3
5. Divide -7, k=-2
6. x=17
7. Multiply 3, h=15
8. m=56
9. Multiply 5/4, d=15
10. j=16
11. Add 5, Divide 2, x=8
12. n=2
13. Add 3, Divide 5, j=3
14. x=-1
15. Subtract 4, Divide -3, x=4
16. x=2
17. Subtract 10, Multiply 3, f=15
18. a=42
19. Multiply 2, Subtract 4, b=6
20. x=-9
21. yes 22. no 23. no 24. yes

How to Simplify Radicals

6^2=6x6=36 7^2=7x7=49
8^2=64 9^2=81 10^2=100
11^2=121 12^2=144 13^2=169
14^2=196 15^2=225 16^2=256
17^2=289 18^2=324 19^2=361
20^2=400 25^2=625

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1. 16
2. $5\sqrt{2}$
3. $\sqrt{16 \times 3}=4\sqrt{3}$
4. $\frac{\sqrt{6}}{3}$
5. $\frac{\sqrt{5}}{\sqrt{8}} \times \frac{\sqrt{8}}{\sqrt{8}} = \frac{\sqrt{40}}{8} = \frac{\sqrt{4\times10}}{8} = \frac{2\sqrt{10}}{8} = \frac{\sqrt{10}}{4}$
6. $8\sqrt{2}$
7. $\sqrt{\frac{48}{12}} = \sqrt{4} = 2$
8. $5\sqrt{3}$
9. $10\sqrt{\frac{6}{2}} = 10\sqrt{3}$
10. $14\sqrt{2}$
11. (4-1) $\sqrt{3} = 3\sqrt{3}$
12. $8\sqrt{3}$
13. Leave as is. $8\sqrt{5}+9\sqrt{7}$
14. $\frac{1}{4}$
15. $\sqrt{4 \times 6}$ - $2\sqrt{6}$ = $2\sqrt{6}$ - $2\sqrt{6}$ = 0
16. 0
17. $3\sqrt{3 \times 2} = 3\sqrt{6}$
18. $18\sqrt{14}$
19. $\frac{8}{16} \times \sqrt{\frac{45}{20}} = \frac{1}{2} \times \sqrt{\frac{9}{4}} = \frac{1}{2} \times \frac{\sqrt{9}}{\sqrt{4}} = \frac{1}{2} \times \frac{3}{2} = \frac{3}{4}$
20. $4\sqrt{3} + \sqrt{4 \times 3} - \sqrt{9 \times 3} = 4\sqrt{3} + 2\sqrt{3} - 3\sqrt{3} = 3\sqrt{3}$

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1. 3
2. 20
3. $3x2\sqrt{6 \times 3} = 6\sqrt{9 \times 2} = 6x3\sqrt{2} = 18\sqrt{2}$
4. 49x3=147
5. $4x2x3\sqrt{3 \times 5 \times 3} = 24\sqrt{9 \times 5} = 24x3\sqrt{5} = 72\sqrt{5}$

Solving Proportions

29. $y = \frac{28}{3}$
30. x = 8
31. x = $\frac{10}{7}$
32. c = $\frac{5}{2}$
33. x = $\frac{6}{7}$
34. x = 16
35. x = 10
36. y = $\frac{5}{3}$