Mini Mu Speed Math Solutions

1. $\boxed{74}$

$14\overline{)1036}$ $\quad 74$

-98

56

-56

0

2. $\boxed{360}$

$3 \times 4 \times 5 \times 6 = 15 \times 24 = 300 + 60 = 360$

3. $\boxed{0}$

$3^2 + 4^2 - 5^2 = 9 + 16 - 25 = 0$

4. $\boxed{5}$

$\sqrt[3]{125} = 5$

5. $\boxed{4}$

$\frac{4}{3} + \frac{1}{2} + \frac{3}{3} + \frac{3}{2} = \frac{6}{3} + \frac{4}{2} = 2 + 2 = 4$

6. $\boxed{1}$

$\frac{A}{4 \cdot x} \times \frac{4 \cdot x}{x \cdot y} \times \frac{y}{2} + \frac{x \cdot z}{2 \cdot x \cdot z} \times \frac{z}{y} = \frac{1}{2} + \frac{1}{2} = 1$

7. $\boxed{\sqrt{2}}$

$\frac{2}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{2\sqrt{2}}{2} = \sqrt{2}$

8. $\boxed{11}$

$4 + 7 - 2 + 4 - 3 + 2 + 1 - 5 + 10 - 6 =$ [illegible]

$11 \quad 3 \quad 12 \quad 9 \quad 11 \quad 12 \quad 7 \quad 17 \quad 11$

9. $\boxed{42}$

$42 \times \frac{1}{2} \div 3 + 14 \div 2 \times 5 = 7 + 35 = 42$

10. $\boxed{1}$

$\frac{1}{2} \div \frac{1}{2} = \frac{1}{2} \times 2 = 1$

11. $\boxed{30}$

$8 \times 7 - 2 \times 2 - 20 \div 2 = 56 - 16 - 10 = 30$

12. $\boxed{13}$

$\frac{15}{15} = 13$

13. $\boxed{4}$

$x : 3y \quad 9y : 4z$

$3x : 9y : 4z, \quad 4$

14. $\boxed{1}$

$$\frac{230+17-14\div2\times11+30}{490\div2-9\times5} = \frac{247-77+30}{245-45} = \frac{200}{200} = 1$$

15. $\boxed{0}$

$\sqrt{108} - \sqrt{12} - \sqrt{48}$

$9\cdot12$ ($4\cdot3$) $\quad 4\cdot3 \quad 16\cdot3$ ($4\cdot4$)

$6\sqrt{3} - 2\sqrt{3} - 4\sqrt{3} = 0$

16. $\boxed{-7}$ or $\boxed{x=-7}$

$-3|x+7| \geq 0$

$|x+7| \leq 0$

$x+7=0 \quad x+7=0$

$x=-7$

17. $\boxed{7}$

Sequence is $3n$, $\quad 3n=21$

$n=\frac{21}{3}=7$

18. $\boxed{960}$

Divisibility by 4 implies divisibility by 2, divisibility by 2 and 3 implies divisibility by 6.

$4\times5\times3=60$

$60\times16=960$

19. $\boxed{230}$

$17\overline{)3910}$ $\quad 230$

-34 $\quad 61$

51

-51

00

-0

0

[redacted]

20. $\boxed{5}$

$1=.25q+.05n$

q	n
0	20
1	15
2	10
3	5
4	0

5 ways

21. $\boxed{\frac{3+\sqrt{2}}{7}}$

$\frac{1}{3-\sqrt{2}} \times \frac{3+\sqrt{2}}{3+\sqrt{2}} = \frac{3+\sqrt{2}}{9-2} = \frac{3+\sqrt{2}}{7}$

22. $\boxed{5}$

SA of the room : $3 \cdot 3 \cdot 5 = 45$

$10\overline{)45}$ 4.5

$4.5 \approx 5$

23. $\boxed{90321}$

$357 \times 253 = 90321$

24. $\boxed{80\pi}$

$SA = \pi r^2 + 2\pi rh$

$= 16\pi + 64\pi = 80\pi$

25. $\boxed{27}$

$50 = b + t$

$127 = 26 + 3t$

$-100 = -26 - 2t$

$27 = t$

26. $\boxed{4}$

New number must be even and [redacted] digits must add up to 60

divisible by 3.

x	0	2	4	6	8
11+x	11	13	15	17	19

27. $\boxed{110}$

$2 + 4 + 6 + 8 + 10 + 12 + 14 + 16 + 18 + 20$

$10 + 10 + 10 + 30 + 30 + 20 = 90 + 20 = 110$

28. $\boxed{\frac{8}{15}}$

$$\frac{\frac{8}{10} \cdot \frac{24}{12} \cdot \frac{4}{32} \cdot \frac{42}{24} \cdot \frac{15}{4}}{\frac{13}{5}} = \frac{\frac{4}{5} \cdot \frac{24}{3} \cdot \frac{1}{8} \cdot 2 \cdot \frac{15}{4}}{\frac{13}{5} \times \frac{5}{15}} = \frac{\frac{8}{9}}{\frac{5}{3}} = \frac{8}{9_3} \times \frac{3}{5} = \frac{8}{15}$$

29. $\boxed{2^4 \times 3^3 \times 7}$

3024

1008 3

504 2

252 2

252

126 2

63 2

21 3

7 7

1

$2^4 \cdot 3^3 \cdot 7$

30. $\boxed{77}$

$1 \times .3 = .3$

$1 - .3 = .7$

$.7 \times .1 = .07$

$.7 + .07 = .77$