Mini Mu Mental Math Key

1. $\boxed{155}$

$43 + 17 + 19 + 21 + 55 = 60 + 40 + 55 = 155$

2. $\boxed{110}$

$10 + 50 \times 2 = 110$

3 $\boxed{13}$

52 $\quad$ 169

$13 \cdot 4 \quad 13 \cdot 13$

4. $\boxed{-\frac{8}{3}}$

$\frac{-33+1}{8+4} = \frac{-32}{12} = -\frac{8}{3}$

5. $\boxed{12842}$

$$\begin{array}{r} 3719 \\ +9123 \\ \hline 12842 \end{array}$$

6 $\boxed{256}$

$16^2 = 2^{4^2} = 2^8 = 256$

7 $\boxed{3}$

$2000 \times 1500 = 3000000$

8 $\boxed{63}$

$3 \cdot 3, \quad 7, \quad 3 \cdot 7$

$3 \cdot 3 \cdot 7 = 63$

9 $\boxed{6237}$

$63 \times 99 = 63 \times (100 - 1) = 6300 - 63 = 6237$

10. $\boxed{\frac{26}{15}}$

$\frac{2}{5} + \frac{4}{3} = \frac{6}{15} + \frac{20}{15} = \frac{26}{15}$

11. $\boxed{14\sqrt{10}}$

1960

$10 \cdot 196$

$2 \cdot 5 \quad 14^2$

$7 \cdot 7 \quad 2 \cdot 7$

$\sqrt{7^2 \cdot 4^2 \cdot 10} = 14\sqrt{10}$

12 $\boxed{17}$

$2^3 + 3^2 = 8 + 9 = 17$

13. $\boxed{120}$

$5! = 5 \cdot 4 \cdot 3 \cdot 2 = 120$

14. **29**

1 5 9 13 17 21 25 (29)
1 2 3 4 5 6 7 (8)

15. **9π**

πr^2, 9π

16. **1221**

$111 + 1110 = 1221$

17. **35**

$\frac{7}{20} \times \frac{5}{5} = \frac{35}{100}$

18. **2500**

$50(22+28) = 50 \times 50 = 2500$

19. **3**

$2^5 = 32$, $3^5 = 243$ ←

20. **36**

$\frac{6^{2010}}{6^{2008}} = \frac{6^{2010}}{6^{2008}} = 6^2 = 36$

21. **$a < -7$**

$a < -7$

22. **12**

$\sqrt{4 \times 3 \times 4 \cdot 3} = 3 \cdot 4 = 12$

23. **7**

$9\overline{)349}$ → 33
-27
79
-72
7

24. **$\frac{1}{400}$**

$\frac{1}{20} \cdot \frac{1}{20} = \frac{1}{400}$

25. **343**

$6\overline{)294}$ → 49
-24
54

$\sqrt{49} = 7$, $7^3 = 343$

26. **1**

$(x+3)^2 = 16$

$x+3 = 4$

$x = 1$

27. $\boxed{\frac{23}{12}}$

$\frac{1}{2}+\frac{2}{3}+\frac{3}{4}=\frac{3}{2}+\frac{2}{3}=\frac{9}{12}+\frac{8}{12}=\frac{23}{12}$

28 $\boxed{6}$

Pythagorean triple 6, 8, 10

29. $\boxed{1469}$

113
× 13
339
1130
1469

30. $\boxed{2^2 \cdot 3^2}$

72
9 · 8
3·3 2·4
2·2

31. $\boxed{571428}$

1 1 3 2 2
142857
× 4
571428

32 $\boxed{16}$

3, 7, 13, 19, ~~37~~, 43

$\frac{13+19}{2}=\frac{32}{2}=16$

33. $\boxed{68}$

$\frac{17}{100}\times 200=34, \quad \frac{34}{50}\times\frac{2}{2}=\frac{68}{100}$

34 $\boxed{16}$

$4(4+3)=x+12$

$16+12=x+12$

$x=16$

35. $\boxed{10}$

$\frac{x+17+23+19+31}{5}=20$

$x+40+50=100$

$x=10$

36 $\boxed{\frac{61}{12}}$

$\frac{15}{4}+\frac{4}{3}=\frac{45}{12}+\frac{16}{12}=\frac{61}{12}$

37 $\boxed{36\pi}$

$\frac{4}{3}\pi(3)^3 = 4 \cdot 9 \cdot \pi = 36\pi$

38 $\boxed{43}$

$27 + 16 = 43$

39 $\boxed{\frac{63}{1000}}$

$\frac{9}{100} \times \frac{7}{10} = \frac{63}{1000}$

40 $\boxed{4011}$

$1337 \text{ yards} \times \frac{3 \text{ ft}}{1 \text{ yard}} = 4011 \text{ ft}$