MA10 Review Solutions: BEDMAS, Algebra, and Equations
(DO NOT WRITE ON THIS PAPER)

1. $85 - 100$
   -15

2. $\sqrt{9}$
   3

3. $\sqrt{-4}$
   Undefined or $2i$

4. $\sqrt[3]{-27}$
   -3

5. 0×1
   0

6. $(-1)^{123}$
   -1

7. $2 - (-3)$
   $2 + 3 = 5$

8. $-2(-2)^2$
   $-2 \times 4 = -8$

9. Simplify $\frac{40}{1200}$
   $\frac{4}{120} = \frac{2}{60} = \frac{1}{30}$

10. Simplify $\frac{7500}{250}$
    $\frac{750}{25}$
    25 fits into 100 four times.
    $4 \times 7 = 28$
    But 25 fits into 50 twice.
    $28 + 2 = 30$

11. Write 0.04 as a simplified fraction
    $\frac{0.04}{1} = \frac{4}{100} = \frac{1}{25}$

12. Write $-2\left(\frac{4}{-6}\right)$ as a mixed fraction
    $-2\left(\frac{4}{-6}\right) = \frac{8}{6} = \frac{4}{3} = 1\frac{1}{3}$

13. $\frac{5}{4} - \frac{3}{5}$
    $\frac{13}{20}$

14. $\frac{4}{6} \times \frac{4}{2}$
    $\frac{2}{3} \times 2 = \frac{4}{3}$

15. $\frac{2/3}{3/4}$
    $\frac{2}{3} \div \frac{3}{4}$
    $\frac{2}{3} \times \frac{4}{3} = \frac{8}{9}$

16. $\frac{8}{3} + 2\frac{1}{2}$
    $\frac{8}{3} + \frac{5}{2}$
    $\frac{16}{6} + \frac{15}{6} = \frac{31}{6}$

17. $2\frac{2}{3} \div 1\frac{1}{2}$
    $\frac{8}{3} \div \frac{3}{2} = \frac{8}{3} \times \frac{2}{3} = \frac{16}{9}$

18. 1.2×0.34
    0.408

19. Write $\frac{12346}{5}$
    a. in the form $a\frac{b}{c}$
       $2469\frac{1}{5}$

    b. as a decimal number
       2469.2

    c. as a percent
       $246,920\%$

20. $2 + 3(-2) - 1$
    $2 - 6 - 1 = -5$

21. $6 \div 2(1 + 2)$
    $3(1 + 2) = 3(3) = 9$

22. $2x - 5x$
    $-3x$

23. $\frac{1}{2}x + \frac{x}{3} - x$
    $= \frac{3}{6}x + \frac{2x}{6} - \frac{6x}{6}$
    $= \frac{3x-4x}{6} = -\frac{x}{6}$

24. $2x - 1 = x + 3$
$x = 3 + 1$
4

25. $\frac{x}{2} + 3 = 3x - \frac{1}{3}$
Multiply both sides by 6
$3x + 18 = 18x - 2$
$20 = 15x$
$\frac{20}{15} = x = \frac{4}{3}$

26. $\frac{x}{5} = \frac{2}{3}$
$3x = 10$
$x = \frac{10}{3}$

27. $5 = \frac{x}{3}$
$x = 15$

28. $-2 = \frac{5}{k}$
$-2k = 5$
$k = -\frac{5}{2}$

29. $\frac{4}{5} = \frac{3}{2x-1}$
Cross multiplying
$4(2x - 1) = 15$
$8x - 4 = 15$
$8x = 19$
$x = \frac{19}{8}$

30. $\frac{x-2}{3} + 2 = \frac{2x+1}{2}$
Multiply by 6
$2(x - 2) + 12 = 3(3x + 1)$
$2x - 4 + 12 = 9x + 3$
$5 = 7x$
$x = \frac{5}{7}$

31. $2(x - 5) = 3(x + 2)$
$2x - 10 = 3x + 6$
$-16 = x$

32. $\frac{2}{3}(1 - 2x) = -\frac{3x+5}{2}$
Multiply both sides by 6
$4(1 - 2x) = -3(3x + 5)$
$4 - 8x = -9x - 15$
$x = -19$

33. $\frac{1-\frac{2}{3}}{\frac{1}{2}+\frac{3}{4}} = 1 \div \frac{1}{x}$
$\frac{1}{3} \div \frac{5}{4} = 1 \times x$
$\frac{1}{3} \times \frac{4}{5} = x$
$x = \frac{4}{15}$

34. Add 6 ft 8 in + 4 ft 6 in in the form x ft and y in
6 ft + 6 ft = 10 ft
8 in + 6 in = 14 in = 1 ft and 2 in (1 ft = 12 in)
Thus 10 ft + 1 ft + 2 in = 11 ft 2 in