

Pre-Algebra 2017

Answers

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|-------|-------|-------|-------|-------|-------|
| 1. C | 2. A | 3. D | 4. D | 5. C | 6. B |
| 7. B | 8. E | 9. B | 10. C | 11. B | 12. D |
| 13. B | 14. A | 15. A | 16. D | 17. D | 18. B |
| 19. D | 20. C | 21. A | 22. C | 23. C | 24. B |
| 25. D | 26. D | 27. C | 28. C | 29. B | 30. C |
| 31. D | 32. B | 33. A | 34. A | 35. D | 36. B |
| 37. A | 38. A | 39. A | 40. B | | |

Solutions:

1. C
2. A $0.09 > 0.02 > 0.018 > 0.017 > 0.0081$
3. D $360/60 = 6$
4. D $\frac{20 \times 0.66 + 30 \times 0.56}{50} = 60$
5. C $\pi(2r)^2 - \pi r^2 = 3\pi r^2$
6. B $0.6 \times 280 = 168$
7. B
8. E $2 > 0.5 > 0.2$
9. B $(\frac{100}{200} + \frac{120}{180} + \frac{90}{120}) / 3 = \frac{23}{36}$
10. C The positive factors of 36 are: 1, 2, 3, 4, 6, 12, 18, 36
11. B $892017 + 902017 + 912017 + 922017 + 932017 + 942017 + 952017 + 962017 + 972017 + 982017 + 992017 = 10362187$
12. D $\frac{5000 \times 75}{50} = 7500$
13. B $((62 + 83 + 95) / 4)^2 = 3600$
14. A $(0.5 \times 4 + 0.5 \times 10) = 7$
15. B $(2k + 3k) = 500$, $300 - 200 = 100$
16. D $1.1^2 = 1.21$
17. D $1.1^5 > 1.61$
18. B LCM=70 and GCD=5, $70+5=75$
19. D $120 = 2^3 \times 3 \times 5$, and, $(3+1)(1+1)(1+1) = 16$
20. C

21. A $579+597+759+795+957+975=4662$
22. C $((\frac{115+145}{2})+110)/2=120$
23. C $a=45$ and $45+5d=90$, $d=9$, $a:d=45:9=5:1$
24. B $9x \times 4y \times xy = (6xy)^2$, volume is $6xy$
25. D $a=-3$, thus $a^5 = -243$
26. D $\frac{x}{4} + \frac{y}{5} = \frac{5x+4y}{20} = \frac{19}{20}$, $x=3$ and $y=1$, thus $5x+6y=21$
27. C $(\frac{x}{2})^2 + (\frac{y}{2})^2 = 100$, $x^2 + y^2 = 400$
28. C $\frac{1}{3x+3} = \frac{2}{3}$, $6x + 6 = 3$; $x = \frac{-1}{6}$; $\frac{1}{3(\frac{-1}{6})+2} = \frac{2}{3}$
29. B
30. C $35m + 25w = 31(m + w)$, $4m = 6w$, $m : w = 6 : 4 = 3 : 2$
31. D $2+3+4+5+6=20$, the sum cannot be 21
32. B $23+21+3+2+1=50$
33. A $x=(1/5)(5/4)(3/2)=3/8$
34. A $\frac{4\pi(2r)^3}{3} = 8\frac{4\pi(r)^3}{3}$
35. D $4321 > 4312 > 4231 > 4213 > 4132 > 4123 > \dots$
36. B $200, 100, 50, 25=50-25$
37. A reciprocal of reciprocal is itself
38. A $91 = 7 \bullet 13$, the product is divisible by 91
39. A $210 = 2 \bullet 3 \bullet 5 \bullet 7$, $36 = 2^2 3^2$, $96 = 2^5 3$, $125 = 5^3$
40. B $\pi(2r)^2 = 4\pi r^2$