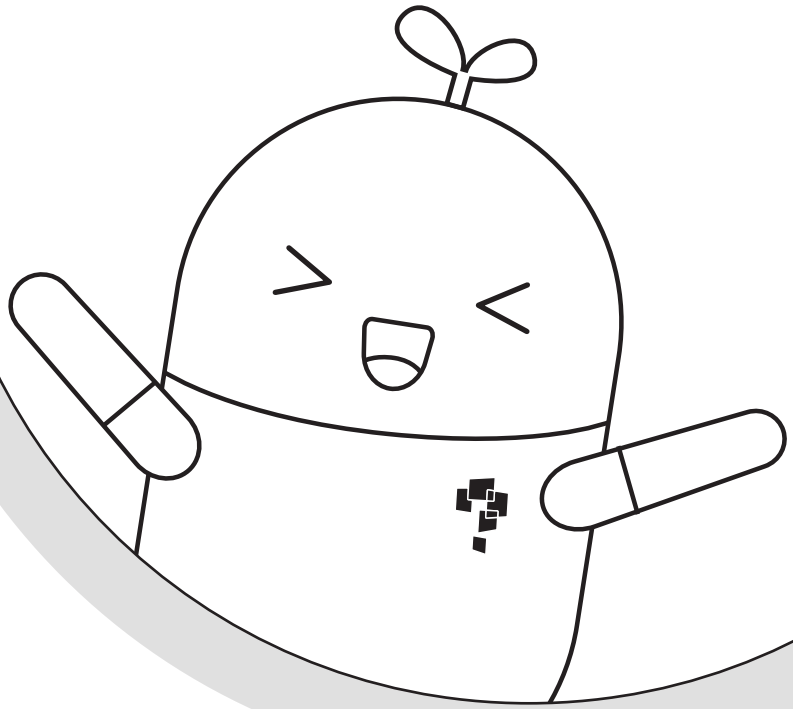
Answers



Think Academy

G5 [B1] Mixed Operation

Decimals

1 1:three

2:10

3:four

4:0.1

2 B

3 1:99.9

2:329

3:100.1

4:88900

Alternative:88,900

4 1:57.93

2:120

3:128.6

4:67300

5 1:68.3

2:190

3:966.9

4:17900

6 1:0.003

2:0.002

3:0.003

4:0.006

7 (1) 20.03

(2) 10.4

(3) 5.38

(4) 24.29

8 1:5.2

2:18.1

3:16.8

4:38.55

9 (1) 11.2

(2) 11.6

Fractions & Decimals

1 A

2 (1) 0.96

(2) 0.675

(3) 1.25

(4) 1.4

3 (1) $\frac{3}{4}$

(2) $2\frac{63}{100}$

(3) $7\frac{13}{20}$

(4) $1\frac{19}{50}$

4 1:0.4

2:0.375

3:1.25

4:21.9

5:2.32

6:9.875

5 A

6 1:0.875

2:1.4

3:7.75

4:17.125

5:3.52

6:9.34

7 1:$\frac{3}{5}$

2:$\frac{11}{50}$

3:$2\frac{29}{50}$

4:$3\frac{9}{25}$

5:$11\frac{1}{4}$

6:$10\frac{22}{25}$

8 1:2.6

2:1.75

3:1.375

9 1:0.68

2:2.375

3:0.275

10 1:0.36

2:2.25

3:2.125

Roots

1 (1) 4

(2) 5

(3) 3

(4) 7

2 (1) 9

(2) 11

(3) 13

(4) 8

3 (1) 2

(2) 2

(3) 9

(4) 3

4 (1) 2

(2) 3

(3) 2

(4) -2

5 (1) $6\sqrt{2}$

(2) $4\sqrt{3}$

(3) $3\sqrt{5}$

(4) $6\sqrt{3}$

6 (1) $2\sqrt{3}$

(2) $4\sqrt{2}$

(3) 8

(4) $3\sqrt{3}$

7 (1) 9

(2) 1

(3) 12

(4) 4

8 (1) 10

(2) 2

(3) 17

(4) 4

9 (1) $5\sqrt{3}$

(2) $4\sqrt{5}$

(3) $5\sqrt{6}$

(4) 5

10 (1) $5\sqrt{2}$

(2) $\sqrt{2}$

(3) $4\sqrt{3}$

(4) $2\sqrt{3}$

Negative Numbers

1 (1) 3

(2) -2

2 (1) -6

(2) 18

3 (1) -9

(2) 9

(3) 9

4 (1) -1

(2) -11

(3) -18

(4) 1

5 (1) -16

(2) 0

(3) 16

(4) 0

6 (1) -6

(2) 6

(3) -31

(4) 102

7 (1) -1

(2) -1

(3) -7

(4) -7

(5) -1

8 (1) 100

(2) -38

(3) -70

(4) 11

9 (1) -3

(2) -18

(3) 1

(4) 1

10 (1) 96

(2) -9

(3) $-\frac{1}{2}$

(4) $\frac{75}{2}$

11 (1) -102

(2) -423

(3) -19

(4) 64

(5) -35

(6) -168

12 (1) 24

(2) -120

(3) 16

Exponents

1 (1) 961

(2) 1024

(3) 1936

(4) 2025

2 (1) 8

(2) 9

3 (1) 9

(2) 9

(3) -9

4 1:216

2:25

3:8

4:9

5 (1) 32

(2) 28

(3) 44

(4) -36

6 (1) $-1=$ _____

(2) -1

(3) -1

(4) 1

7 1:961

2:1444

3:1936

4:2025

5:3844

6:7744

7:121

8:12321

9:1234321

10:123454321

8 (1) 0

(2) -12

9 (1) 24

(2) 17

(3) 21

(4) 12

10 (1) 8

(2) 16

(3) 32

(4) 64

(5) 128

(6) 256

(7) 512

(8) 1024

11 (1) 5

(2) 5

(3) 5

(4) 5

12 (1) 17

(2) 23

(3) -31

(4) -31

13 (1) 9

(2) -44

(3) 33

(4) -1024

14 (1) 9

(2) 7

(3) -7

(4) -9

15 (1) 121

(2) 144

(3) 169

(4) 196

(5) 225

(6) 256

(7) 289

(8) 324

(9) 361

(10) 441

(11) 484

(12) 529

(13) 576

(14) 625

16 (1) 8

(2) -8

(3) -8

(4) -5×2^{101}

17 (1) 81

(2) -81

(3) $-\frac{27}{8}$

(4) $-\frac{27}{2}$

G5 [B2] Equation

Basic Equation

1 $x = 7$

2 $x = 22$

3 (1) $x = 77$

(2) $x = 54$

(3) $x = 75$

4 (1) $x = 7$

(2) $x = 990$

5 (1) $x = 89$

(2) $x = 207$

(3) $x = 45$

6 (1) $x = 42$

(2) $x = 77$

7 (1) $x = 246$

(2) $x = 11$

8 (1) 5

(2) 28

(3) 55

(4) 11

9 (1) $x = 12$

(2) $x = 448$

10 (1) $x = 7$

(2) $x = 990$

(3) $x = 48$

11 $x = 11$

12 $x = 4$

13 $x = 35$

14 $x = 21$

15 $x = 62$

16 $x = 1$

17 $x = 6$

18 $x = 3$

19 (1) $x = 2$

(2) $x = 24$

20 (1) $x = 30$

(2) $x = 0$

(3) $x = 8$

21 (1) $x = 26$

(2) $a = 1$

(3) $x = 60$

22 (1) $x = 7776$

(2) $x = 7$

23 (1) $x = 2$

(2) $x = 2$

24 (1) $x = 3$

(2) $x = 21$

(3) $x = 8$

25 (1) $x = 9$

(2) $x = 9$

26 (1) $x = 7$

(2) $x = 40$

27 (1) 24

(2) 3

28 (1) $x = 14$

(2) $x = 100$

29 (1) $y = 134$

(2) $m = 8$

30 (1) $a = 8$

(2) $x = 15$

31 (1) $x = 2$

(2) $x = 3$

32 (1) $x = 8$

(2) $x = 2$

33 (1) $x = 15$

(2) $x = 1200$

(3) $x = 30$

34 (1) $x = 200$

(2) $x = 384$

(3) $x = 29$

35 (1) $x = 12$

(2) $x = 1$

(3) $x = 2$

36 (1) $x = 3$

(2) $x = 5$

(3) $x = 60$

(4) $x = 13$

37 (1) $x = 9$

(2) $x = 2$

(3) $x = 12$

(4) $x = 10$

38 (1) $x = 0.5$

(2) $x = 1$

(3) $x = 6$

(4) $x = 5$

(5) $x = 20$

39 1:-14

2:3

3:6

4:15

40 1:21

2:81

3:5

4:36

41 1:0.7

2:-8

42 1:-4

2:7

3:-11

4:1

43 1:1.5

2:5

44 1:4

2:-12

3:-7

4:99

45 1:22

2:42

3:6

4:56

46 1:2

2:2

3:-6

4:-7

47 1:-2

2:4

3:-3

4:0.25

Alternative:$\frac{1}{4}$

Fractional Equation

1 1:-3

2:33

3:-7

4:3

2 1:$\frac{1}{11}$

2:-22

3 1:$\frac{10}{11}$

2:$\frac{13}{36}$

4 1:$\frac{1}{3}$

2:-10

5 1:$\frac{5}{6}$

2:$\frac{4}{35}$

6 1:$\frac{9}{2}$

2:$\frac{20}{11}$

7 1:$\frac{4}{7}$

2:2

8 1:$\frac{29}{13}$

2: $\frac{40}{23}$

Equation with Percentage

1 $x = 10$

2 $x = 40$

3 $x = \frac{1}{10}$

4 $x = 72$

5 $x = \frac{211}{3}$

6 $x = 62$

7 $x = 4$

8 $x = 4$

9 $x = 20$

10 $x = 60$

11 (1) $x = 10$

(2) $x = 14$

12 (1) $x = 40$

(2) $x = 50$

13 (1) $x = 0.5$

(2) $x = 1.97$

14 (1) $\frac{115}{72}$

(2) 10

15 (1) $x = 150$

(2) $x = 120$

16 (1) $x = 10$

(2) $x = 19.5$

17 (1) $x = 3$

(2) $x = 12$

(3) $x = \frac{12}{7}$

18 (1) $x = \frac{2}{11}$

(2) $x = 10$

(3) $x = 120$

19 (1) $x = \frac{2}{9}$

(2) $x = \frac{7}{4}$

(3) $x = \frac{1}{4}$

20 (1) $x = 16$

(2) $x = 100$

(3) $x = 60$

(4) $x = 20$

21 (1) $x = 25$

(2) $x = 10$

(3) $x = 40$

(4) $x = 0.36$

G5 [B3] Geometry

Basic Area

1 2.4 m

2 93.5 cm^2

3 21

4 56.25 m^2

5 24

6 45 cm^2

7 6

8 144

9 (1) $24\ cm^2$

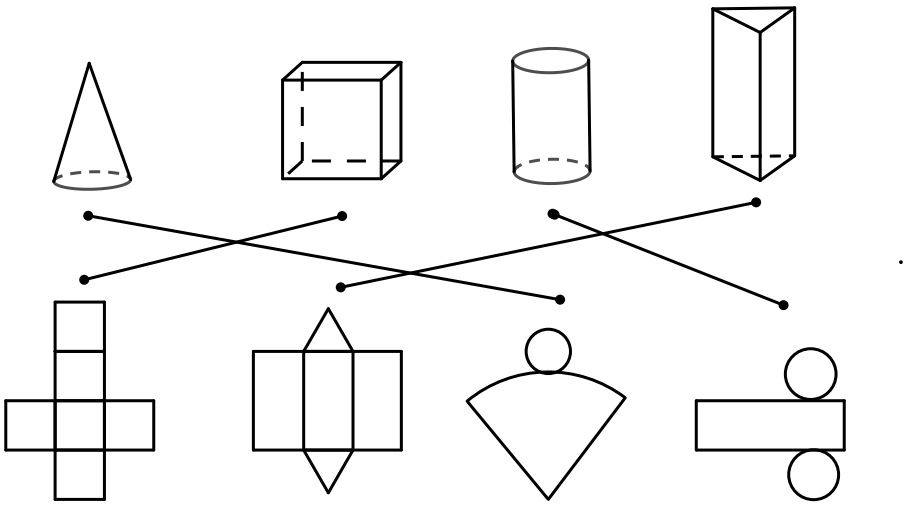
(2) $21\ m^2$

10 A 11 D

12 6 cm

Knowing Cubes and Cuboids

1



2 1:5

2:8

3:3

4:0

5:6

6:12

7:5

8:9

3 1:2

2:3, 4

4 B

5 3

6 1:4

2:6

3:6

4:12

5:3

6:0

7 2, 4, 5, 7.

8 8

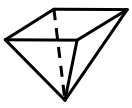
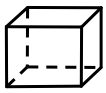
9

	Figure 1	Figure 2	Figure 3	Figure 4
Number of vertices	8	8	4	5
Number of faces	6	6	4	5
Number of edges	12	12	6	8

10

Figure	Number of Vertices	Number of Edges	Number of Faces
(1)	4	6	4
(2)	5	8	5
(3)	8	12	6
(4)	6	9	5

11

			
Number of faces	4	5	6
Shape of the base	triangle	quadrilateral	rectangle
Shape of the other faces	triangle	triangle	rectangle

12

Figure	Number of Vertices	Number of Faces	Number of Edges
1	4	4	6
2	8	6	12
3	6	8	12
4	9	8	15

Surface Area and Volume of 3D Figure

1 (1) 1:5

2:3

3:2

(2) 1:rectangle

2:3

3:2

4:6

(3) 1:rectangle

2:5

3:3

4:bottom face

2 136 cm.

3 216

4 (1) 3780 cm^2.

(2) 182 cm^2.

5

150 cm^2, 52 cm^2.

6 (1) 84

(2) 216

7 512000

8 (1) 60 cm^3

(2) 24 cm^3

(3) 27 cm^3

9 (1) 125 cm^3.

(2) 192 cm^3.

10 1:$2:3$

2:$4:9$

3:$8:27$

11 (1) The surface area of the solid figure is 52 m^2.

The volume of the solid figure is 24 m^3.

(2) The surface area of the cube is 54 m^2.

The volume of the cube is 27 m^3.

12 64

13 The surface area of the cube is 294 m^2.

The volume of the cube is 343 m^3.

14 (1) Volume of the container: $120\ \mathrm{m}^3$,

Volume of the liquid inside: $90\ \mathrm{m}^3$.

(2) Volume of the container: $45\ \mathrm{m}^3$.

Volume of the liquid inside: $37.8\ \mathrm{m}^3$.

15 20 cm

16 $13500\ \mathrm{cm}^3$

17 $288\ \mathrm{cm}^3$

18 D

19 $153\ \mathrm{cm}^3$.

20 $28\ \mathrm{cm}^3$

21 8

22 (1) 0.6

(2) 2.5

Think Academy

G5 [B4] Word Problems

Knowing Units

1 43.95 m

2 77

3 56700 grams

4 23300 grams

5 41.45 m

6 5.23 kilometers

Word Problems with Fractions and Decimals

1 16.8 dollars

2 0.36 kilograms

3 1440

4 $12\frac{1}{5}$ kilograms

5 $2\frac{17}{20}$ dollars

6 $5\frac{1}{8}$ liters

7 $13\frac{3}{4}$ pounds

8 720 dollars

9 1.8 kilograms

10 1

11 $12\frac{1}{4}$ kilograms

12 7.625 dollars; $7\frac{5}{8}$ dollars

13 6.15 kg

14 4.875

15 B

16 960 dollars

17 40.5 m^2

18 1.7 kilograms

19 5.3 liters

20 2.6

21 406 kg.

22 97.3 tons

Word Problems with Basic Equation

1 1:$x+13$

Alternative:$67-x$

2:27

3:40

2 1:$x-5$

2:21

3:16

3 10 gallons of gas

4 90

5 1.5 dollars

6 He can buy 28 tennis balls.

7 20 spoonfuls of sugar

8 45

9 5 g

10 20 fortune cookies are needed if there are 10 customers.

11 He can spend at most 18 dollars on dinner

12 He can buy 10 pieces of chocolate.

13 1:$x+17$

2:35

3:52

14 7

15 7

16 9

17 She can drive 10 miles in 15 minutes.

18

20 glasses

19 1:4

2:6.4

3:2.4

20 He can walk 10 meters in 12 seconds

21 12 days

22 He can drive 10 miles.

23 450 minutes

24 1:20

2:30

3:50

25 1:30

2:40

3:50

G5 [A1] Complex Operation & Equation

Mixed Operation

1 (1) 25

(2) -2

(3) -4

(4) -6

2 1:11

2:72

3:12

3 1:-16

2:-20

4 1:-4

2:$\frac{13}{8}$

Alternative1:$1\frac{5}{8}$

Alternative2:1.625

5 1:2

2:125

3:$\frac{81}{16}$

4:$\frac{25}{49}$

6 1:158

2:18

7 1:-45

2:3

8 1:10

2:23

3:8

9 1:30

2:0.25

Alternative:$\frac{1}{4}$

10 1:12

2:8

3:24

11 1:-28

2:22

12 (1) 9

(2) $\frac{49}{50}$

13 (1) -17

(2) $\frac{9}{1000}$

Exponents

1 1:4

2:-9

3:$\frac{1}{8}$

4:$-\frac{1}{999}$

2 1:81

2:$\frac{1}{121}$

3:$-\frac{1}{2}$

4:$-\frac{1}{9}$

3 1:$\frac{1}{9}$

2:$-\frac{1}{2}$

3:$-\frac{1}{2}$

4:-1

4 1:27

2:$\frac{1}{16}$

3:-1

4:-1

5 1:3

2:$\frac{1}{4}$

3:$-\frac{1}{2}$

4:-5

6 1:12

2:27

3:9

4:-3

Recurring Decimals

1 1:$51\frac{17}{33}$

2:17

3:$\frac{17}{33}$

2 1:$78\frac{26}{33}$

2:78

3:$\frac{26}{33}$

3 1:$\frac{17}{33}$

2:51

3:$51\frac{17}{33}$

4 1:$\frac{13}{90}$

2:13

3:$\frac{13}{5}$

5 1:$69\frac{23}{33}$

2:69

3:$\frac{23}{33}$

6 1:$27\frac{3}{11}$

2:27

3:$\frac{3}{11}$

7 D

8 $\frac{7}{13} < 0.64 < 0.6\overline{4} < 0.\overline{64}$

9 D

10 (1) $\frac{5}{11}$
(2) $3\frac{71}{111}$
(3) $\frac{32}{111}$

11 (1) $\frac{9}{11}$
(2) $8\frac{7}{11}$
(3) $\frac{16}{27}$

Complex Equation

1 $x = 154$

2 $x = 4$

3 $x = 7$

4 $x = 0.8$

5 $x = 20$

6 $x = 11$

7 $x = 5$

8 $x = 5$

9 $x = 18$

10 $x = 3.6$

11 $x = 7$

12 $x = 19$

13 $x = 4$

14 $x = \frac{1}{6}$

15 $x = 17$

16 $x = \frac{3}{2}$

17 $x = 110$

18 $x = 1$

19 (1) $x=300$

(2) $x=\frac{3}{2}$

20 (1) $x=132$

(2) $x=2$

21 (1) $x=4$

(2) $x=30$

22 (1) $x=2$

(2) $x=102$

23 (1) $x=2.5$

(2) $x=3$

24 (1) $x=20$

(2) $x=1$

25 (1) 25

(2) 5

26 (1) $x=0$

(2) $x=7$

27 (1) $x=26$

(2) $x=2$

28 (1) $x=4$

(2) $x=6$

29 (1) $x=0$

(2) $x=2$

(3) $x=10$

30 (1) $x=6$

(2) $x=1.5$

(3) $x=0$

31 (1) $x=\frac{11}{8}$

(2) $x=\frac{7}{2}$

(3) $x=4$

32 (1) $x=5$

(2) $x=24$

(3) $x=191$

33 1:2

2:-20

34 1:12

2:-3

35 1:$\frac{7}{4}$

2:$-\frac{1}{6}$

36 1:1

2:$-\frac{5}{16}$

37 1:2

2:1.5

38 1:0.5

2:3

39 1:3

2:3

40 1:$\frac{3}{10}$

2:$\frac{-36}{19}$

41 1:-2

2:2

42 1:1

2:$-\frac{5}{16}$

43 1:0.4

2:0.15

44 1:0.28

2:0.875

45 1:0.86

2:0.425

46 1:$\frac{10}{7}$

2:$-\frac{1}{2}$

47 1:$-\frac{1}{2}$

2:$\frac{8}{7}$

48 1:$\frac{2}{9}$

2:$-\frac{7}{6}$

49 1:$-\frac{7}{3}$

2:$\frac{7}{3}$

50 1:$-\frac{3}{8}$

2:-220

51 1:0.5

2:-0.8

52 1:1.2

2:-0.4

53 1:$\frac{17}{8}$

2:$-\frac{16}{17}$

54 1:$\frac{13}{8}$

2:$-\frac{1}{12}$

55 1:$-\frac{9}{10}$

2:$-\frac{7}{17}$

56 1:$-\frac{17}{2}$

2:$-\frac{1}{18}$

57 1:-1

2:-15

58 1:$\frac{1}{5}$

2:25.8

59 1:7

2:-2.25

60 1:6

2:21

61 1:$\frac{10}{3}$

2:-2

62 1:$-\frac{15}{17}$

2:$-\frac{1}{7}$

63 1:$\frac{2}{3}$

2:-10

64 1:$-\frac{5}{2}$

2:$-\frac{1}{48}$

Equation with Multiple Unknown Numbers

1 -12

2 1

3 $\begin{cases} a=5 \\ b=3 \end{cases}$

4 (1) $\begin{cases} x=4 \\ y=8 \end{cases}$

(2) $\begin{cases} x=6 \\ y=4 \end{cases}$

5 (1) $\begin{cases} x=6 \\ y=5 \end{cases}$

(2) $\begin{cases} x=6 \\ y=2 \end{cases}$

6 (1) $\begin{cases} x=5 \\ y=1 \end{cases}$

(2) $\begin{cases} x=6 \\ y=1 \end{cases}$

7 (1) $\begin{cases} x=3 \\ y=8 \end{cases}$

(2) $\begin{cases} x=3 \\ y=3 \end{cases}$

8 (1) $\begin{cases} x=62 \\ y=38 \end{cases}$

(2) $\begin{cases} x=6 \\ y=2 \end{cases}$

9 (1) $\begin{cases} x=5 \\ y=5 \end{cases}$

(2) $\begin{cases} x=19 \\ y=12 \end{cases}$

10 (1) $\begin{cases} x=70 \\ y=120 \end{cases}$

(2) $\begin{cases} x=1 \\ y=2 \end{cases}$

11 (1) $\begin{cases} x=9 \\ y=8 \end{cases}$

(2) $\begin{cases} x=2 \\ y=1 \end{cases}$

12 (1) $\begin{cases} x=1 \\ y=2 \end{cases}$

(2) $\begin{cases} x=6 \\ y=5 \end{cases}$

13 (1) $x=6$

$y=3$

(2) $x=10$

$y=17$

14 (1) $\begin{cases} x=2 \\ y=3 \end{cases}$

(2) $\begin{cases} x=10 \\ y=8 \end{cases}$

15 (1) $\begin{cases} x=5 \\ y=4 \end{cases}$

(2) $\begin{cases} x=1 \\ y=4 \end{cases}$

16 (1) $\begin{cases} x=2 \\ y=2 \end{cases}$

(2) $\begin{cases} x=2 \\ y=2 \end{cases}$

17 (1) $\begin{cases} x=5 \\ y=3 \end{cases}$

(2) $\begin{cases} x=12 \\ y=3 \end{cases}$

18 (1) $\begin{cases} x=9 \\ y=4 \end{cases}$

(2) $\begin{cases} x=3 \\ y=1 \end{cases}$

(3) $\begin{cases} x=4 \\ y=3 \end{cases}$

19 (1) $\begin{cases} x=2 \\ y=6 \end{cases}$

(2) $\begin{cases} x=3 \\ y=4 \end{cases}$

20 (1) $\begin{cases} x=6 \\ y=4 \end{cases}$

(2) $\begin{cases} x=3 \\ y=3 \end{cases}$

(3) $\begin{cases} x=6 \\ y=3 \end{cases}$

G5 [A2] Geometry

Trick to Find Perimeter

1 Perimeter: 46 cm;

Area: 97 cm^2

2 36 m

3 280 m

4 120 cm

5 46 cm

6 188cm

7 C

8 Perimeter $= 50$ cm;

Area $= 80$ cm^2.

9 21

10 23

11 71

12 81 cm^2

13 3

14 21

15 218 cm^2

16 22

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G5 [A3] Word Problems

Complex Word Problems

1. 350 pages

2. 54

3. 27 minutes

4. 380 kWhr

5. Cindy can take at most 7 rides.

6. 280 miles

7. 25

8. 1:24

   2:8

9. 5

10. 212 km

11. 288

12 900 meters

13 54 hours

14 4

15 720 pages

16 35 hours

17 81 meters

18 There are 30 six-wheel trucks and 20 eight-wheel trucks.

19 1:44

2:20

20 600 feet^2

21 12 dollars

22 40000 dollars

23 31000 dollars

24

1:20

2:10

25 412.5 km

26 11 days

27 1015 m

28 C

29 96 pairs

30 28000 dollars

31 28 dollars

32 800 gallons

33 13 days

34 360000 dollars

35 6.8 km

36 4

37 1:10

2:40

38 442 pages

39 900 meters

40 20 ticket A and 20 ticket B.

41 216

42 He can spend at most 32 hours.

43 30000 dollars

44 225 miles

45 James can at most make a phone call for 11 minutes.

G5 [A4] Combinatorics

Number Theory

1 (1) $48 = 2^4 \times 3$

(2) $64 = 2^6$

2 (1) $80 = 2^4 \times 5$

(2) $58 = 2 \times 29$

3 (1) $36 = 2^2 \times 3^2$

(2) $24 = 2^3 \times 3$

(3) $91 = 7 \times 13$

4 (1) 2×3^2

(2) $2^4 \times 3$

(3) 3×5^2

5 (1) $33 = 3 \times 11$

(2) $60 = 2^2 \times 3 \times 5$

(3) $90 = 2 \times 3^2 \times 5$

6 (1) $2 \times 3 \times 5$

(2) $2^3 \times 7$

(3) $2^2 \times 3 \times 7$

7 (1) $2^2 \times 3 \times 5$

(2) $2^3 \times 3^2$

(3) $2^2 \times 3 \times 7$

8 (1) $2^2 \times 3$

(2) $3^2 \times 5$

(3) 3×5^2

9 (1) $86 = 2 \times 43$

(2) $72 = 2^3 \times 3^2$

(3) $44 = 2^2 \times 11$

10 (1) $2^4 \times 3$

(2) 7×17

(3) $2^3 \times 3^2 \times 5$

11 (1) $60 = 2^2 \times 3 \times 5$

(2) $76 = 2^2 \times 19$

(3) $68 = 2^2 \times 17$

12 (1) $28 = 2^2 \times 7$

(2) $87 = 3 \times 29$

(3) $380 = 38 \times 10 = 2^2 \times 5 \times 19$

13 (1) $24 = 2^3 \times 3$

(2) $72 = 2^3 \times 3^2$

(3) $180 = 2^2 \times 3^2 \times 5$

14 (1) 3×41

(2) $3^3 \times 5$

(3) $2^4 \times 7$

15 (1) $24 = 2^3 \times 3$

(2) $252 = 2^2 \times 3^2 \times 7$

(3) $231 = 3 \times 7 \times 11$

16 (1) $3 \times 5^2 \times 7$

(2) $2 \times 3^2 \times 23$

(3) $2^3 \times 3 \times 11$

17 (1) $2^2 \times 5$

(2) 3×17

(3) $2^3 \times 5$

(4) 3^3

18 (1) $36 = 2^2 \times 3^2$

(2) $66 = 2 \times 3 \times 11$

(3) $78 = 2 \times 3 \times 13$

(4) $92 = 2^2 \times 23$

19 (1) $16 = 2^4$

(2) $21 = 3 \times 7$

(3) $35 = 5 \times 7$

(4) $48 = 2^4 \times 3$

20 (1) $20 = 2^2 \times 5$

(2) $78 = 2 \times 3 \times 13$

(3) $30 = 2 \times 3 \times 5$

(4) $56 = 2^3 \times 7$

21 (1) $44 = 2^2 \times 11$

(2) $105 = 3 \times 5 \times 7$

(3) $64 = 2^6$

(4) $45 = 3^2 \times 5$

22 (1) $34 = 2 \times 17$

(2) $18 = 2 \times 3^2$

(3) $9 = 3^2$

(4) $56 = 2^3 \times 7$

23 (1) $40 = 2^3 \times 5$

(2) $52 = 2^2 \times 13$

(3) $90 = 2 \times 3^2 \times 5$

(4) $96 = 2^5 \times 3$

24 (1) 2×13

(2) $2 \times 5 \times 7$

(3) $2 \times 3 \times 7$

(4) $2^3 \times 7$

25 (1) $81 = 3^4$

(2) $125 = 5^3$

(3) $165 = 3 \times 5 \times 11$

(4) $98 = 2 \times 7^2$

26 (1) $30 = 2 \times 3 \times 5$

(2) $45 = 3^2 \times 5$

(3) $24 = 2^3 \times 3$

(4) $40 = 2^3 \times 5$

27 (1) $65 = 5 \times 13$

(2) $56 = 2^3 \times 7$

(3) $87 = 3 \times 29$

(4) $39 = 3 \times 13$

28 (1) $24 = 2^3 \times 3$

(2) $36 = 2^2 \times 3^2$

(3) $91 = 7 \times 13$

(4) $75 = 3 \times 5^2$

29 (1) $28 = 2^2 \times 7$

(2) $33 = 3 \times 11$

(3) $26 = 2 \times 13$

(4) $45 = 3^2 \times 5$

30 (1) $3 \times 5 \times 13$

(2) 3×7^2

(3) $2 \times 3^2 \times 17$

(4) $2^5 \times 3^2$

31 (1) $146 = 2 \times 73$

(2) $255 = 3 \times 5 \times 17$

(3) $360 = 2^3 \times 3^2 \times 5$

(4) $400 = 2^4 \times 5^2$

32 (1) 5×7

(2) $2^3 \times 3^2$

(3) $2^4 \times 3 \times 5$

(4) $5 \times 11 \times 13$

33 (1) $36 = 2^2 \times 3^2$

(2) $120 = 2^3 \times 3 \times 5$

(3) $250 = 2 \times 5^3$

(4) $286 = 2 \times 11 \times 13$

34 (1) $228 = 2^2 \times 3 \times 19$

(2) $546 = 2 \times 3 \times 7 \times 13$

(3) $294 = 2 \times 3 \times 7^2$

(4) $825 = 3 \times 5^2 \times 11$

35 1:5

2:13

36 24

37 102

38 30

39 4,5,6

40 9

41 121

42 1:3

2:4

3:5

4:6

43 C

44 1:1

2:2

3:3

Permutation and Combination

1 3

2 4

3 6

4 B

5 15

6 20

7 35

8 D

9 20

10 D 11 B

12 15

13 28

14 20

15 336

16 15

17 (1) 120

(2) 120

18 216

19 210

20 180

21 (1) 840

(2) 720

(3) 480

(4) 360

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G5 [C1] AMC 8

1 E 2 C 3 D 4 B 5 B 6 D 7 A 8 B 9 B 10 B 11 E

12 C 13 E 14 C 15 A 16 D 17 D 18 B 19 C 20 B 21 B 22 D

23 B 24 C 25 C

26 2500

27 Thursday

28 9

29 34

30 24

31 50

32 74

33 7

34 120

35 26

36 72

37 4480

38 3.7

39 74

40 4.5

41 1015

42 72

43 126

44 12

45 18

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G5 [C2] Think One on One

1. 500

2. $\frac{1}{235}$

3. 53.55

4. 2

5. $2011\frac{2011}{2012}$

6. 45

7. 0.48

8. 3991

9. 90

10. 26

11. 72

12. 18

13 115

14 90

15 7

16 63

17 146

18 1700

19 50

20 70

21 120

22 972

23 9750

24 300

25 2002

26 19

27 420

28 Sunday

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G5 [C3] Think Cup

1 D 2 B 3 D 4 B 5 D 6 B 7 C 8 E 9 B 10 B 11 C

12 D 13 E 14 D 15 C 16 D 17 A 18 A 19 A 20 D 21 C 22 A

23 E 24 A 25 D 26 E 27 C 28 D 29 B 30 B 31 A 32 D 33 A

34 E 35 A 36 E 37 C 38 C 39 B 40 C 41 E 42 A 43 D 44 B

45 A

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