

Mathematics 8 KEY

Solutions:

1) 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144

2a) 5

2b) 11

2c) 50

2d) 800

2e) 0.62

2f) 0.09

2g) 1.4

2h) $\frac{5}{10} = \frac{1}{2}$

2i) $\frac{8}{6} = \frac{4}{3}$

2j) $\sqrt{\frac{9}{4}} = \frac{3}{2}$

3a) $17 = \sqrt{289}$

3b) $2.7 = \sqrt{7.29}$

3c) $\frac{2}{11} = \sqrt{\frac{4}{121}}$

3d) $28.1 = \sqrt{789.61}$

4a) $36 - 49$

4b) $81 - 100$

4c) $100 - 121$

5a) 6.2

5b) 9.6

5c) 10.7

7a) $\frac{3}{2} \times \frac{1}{5} = \frac{3 \times 1}{2 \times 5} = \frac{3}{10}$

7b) $\frac{4}{5} \times \frac{1}{2} = \frac{4 \times 1}{5 \times 2} = \frac{4}{10} = \frac{2}{5}$

7c) $\frac{5}{6} \times \frac{2}{3} = \frac{5 \times 2}{6 \times 3} = \frac{10}{18} = \frac{5}{9}$

7d) $\frac{4}{5} \div \frac{2}{3} = \frac{4}{5} \times \frac{3}{2} = \frac{4 \times 3}{5 \times 2} = \frac{12}{10} = \frac{6}{5}$

7e) $\frac{2}{5} \div \frac{1}{3} = \frac{2}{5} \times \frac{3}{1} = \frac{2 \times 3}{5 \times 1} = \frac{6}{5}$

7f) $\frac{3}{10} \div \frac{1}{3} = \frac{3}{10} \times \frac{3}{1} = \frac{3 \times 3}{10 \times 1} = \frac{9}{10}$

7g) $2\frac{1}{3} \times 1\frac{2}{5} = \frac{7}{3} \times \frac{7}{5} = \frac{49}{15}$

7h) $1\frac{1}{2} \times \frac{1}{8} = \frac{3}{2} \times \frac{1}{8} = \frac{3}{16}$

7i) $4\frac{1}{4} \div \frac{5}{6} = \frac{17}{4} \div \frac{5}{6} = \frac{17}{4} \times \frac{6}{5} = \frac{102}{20} = \frac{51}{10}$

7j) $2\frac{1}{2} \div 1\frac{3}{4} = \frac{5}{2} \div \frac{7}{4} = \frac{5}{2} \times \frac{4}{7} = \frac{20}{14} = \frac{10}{7}$

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8)

Fraction	Decimal	Percent
<i>Example:</i> $\frac{4}{5}$	0.8	80%
$\frac{3}{8}$	0.375	37.5%
$\frac{3}{2}$	1.5	150%
$\frac{75}{100} = \frac{3}{4}$	0.75	75%
$\frac{19}{100}$	0.19	19%
$\frac{45}{100} = \frac{9}{20}$	0.45	45%
$\frac{120}{100} = \frac{6}{5}$	1.2	120%

9) a) 15% of 20 = $0.15 \times 20 = 3$

b) 50% of 150 = $0.5 \times 150 = 75$

c) 200% of 50 = $2.00 \times 50 = 100$

10a) $\frac{5}{8} = 62.5\%$

10b) $\frac{10}{20} = 50\%$

10c) $\frac{1}{4} = 25\%$

10d) $\frac{1}{2} = 50\%$

11a) 3:5

11b) 7:6

11c) 5:9

12) $4:5 = 8:10 = 12:15 = 16:20 = 20:25$

13) 2:3

14) $\frac{3}{4} = \frac{?}{24}$? = 18

15) $5 : x = 40 : 56$ $\frac{5}{x} = \frac{40}{56}$ $x = 7$

16a) $\frac{180 \text{ words}}{3 \text{ minutes}} = 180 \div 3 = 60 \text{ words/min}$

16b) $\$3.56 \div 4 = \0.89

17a) 12 17b) -14 17c) 12 17d) -15 17e) -16 17f) 18

17g) 14 17h) 0 17i) -30

18a) 2 18b) -4 18c) -8 18d) -5 18e) -2 18f) 4

19) 58

20) 2 above par

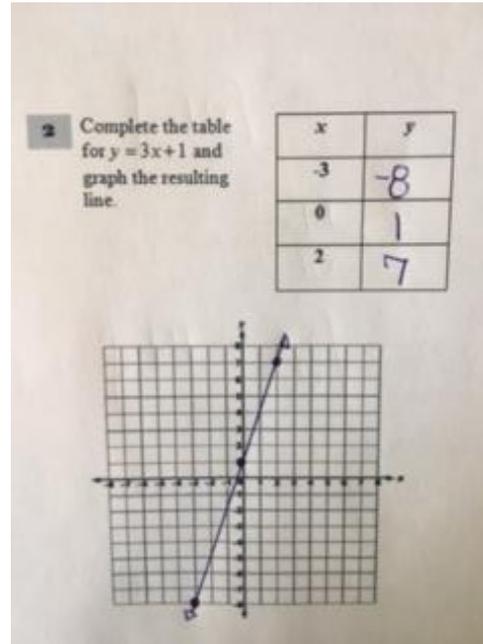
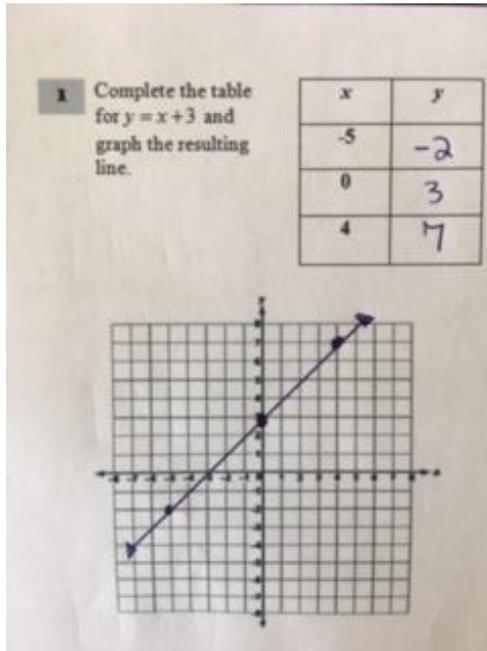
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21) 1052 Feet Apart

22) -6.4° average

23a) -164 23b) -24 23c) 8 23d) -7 23e) 41 23f) -15

Graph and Analyze two-variable Linear Relations



24a) $x = \frac{8}{5}$

24b) $x = 1$

24c) $x = 40$

24d) $x = -1$

24e) $x = -3$

24f) $x = \frac{13}{5}$

24g) $x = 3$

24h) $x = 5$

25) d

26) b

27) c

28) b

29a) 7.5 cm

29b) 11.7 cm

29c) 10.7 cm

29d) 4.5 cm

30) 12 inches

31) 13512 cm^2

32) 108 in^2

33) 220540 mm^2

34) Cylinder
Triangular Prism
Right Rectangular Prism

Surface Area =
Surface Area =
Surface Area =

Volume =
Volume =
Volume =

35a)

35b)

35c)

35d)

35e)

35f)

35g)

35h)