

Answers

for Grade 6 Group Assignments - Quarter #3

Notes for Parents:

- Answers for group assignment problems that are out of the workbook can be found in the “G6 Workbook Answer Key”.
- It is probably best not to give this document to the students, as it might spoil it for them.
- This answer key doesn’t include all answers.

Week 17

Tuesday

- | | | |
|------------------------------|-------------------------------|-------------------------------|
| 1) $2 \times 5 \times 7$ | 4) $2^7 \times 5^7 \times 7$ | 7) $2^5 \times 5^5 \times 13$ |
| 2) $2^2 \times 5^2 \times 7$ | 5) $2 \times 5 \times 13$ | 8) $2^4 \times 5^5$ |
| 3) $2^3 \times 5^3 \times 7$ | 6) $2^3 \times 5^3 \times 13$ | 9) $2^6 \times 5^3$ |

Each zero breaks down into a 2 and a 5: each zero is $\times 10$, $10 = 2 \times 5$.

- 10) $2^4 \times 3^5 \times 5 \times 11$
11) 23×89

for Thursday.

- 1) The possible answers are eleven less than multiples of 28 (e.g., 17, 45, 73, 101, etc.).
- 2) He should cut his piece into six equal pieces (each one of which is one-twelfth of the whole pizza), and give each brother one of these small pieces.

Week 18 No answers needed.

Week 19

for Tuesday.

Note: Answers for the *Fraction-Decimal-Percent Conversion Table* are on the next page.

- 1) Because wealth can be measured by GDP per person
- 2) 1 million dollars per year.
- 3) \$43,000 per worker
- 4) a) USA \approx \$65,000 GDP per capita
b) Switzerland \approx \$82,000 per capita
c) China \approx \$10,000 per capita

for Thursday.

- 1) 3132 billion or 3.132 trillion
- 2) 15%
- 5a) \$43 billion 5b) 9.3% 5c) \$14 billion 5d) 10.8% 5g) 16%

Fraction-Decimal-Percent Conversion Table

Normal Fraction with				Normal Fraction with			
Fraction	Denom=100	Percent	Decimal	Fraction	Denom=100	Percent	Decimal
$\frac{1}{2}$	$\frac{50}{100}$	50%	0.5	$\frac{1}{3}$	$\frac{33\frac{1}{3}}{100}$	33 $\frac{1}{3}$ %	0.3
$\frac{1}{4}$	$\frac{25}{100}$	25%	0.25	$\frac{2}{3}$	$\frac{66\frac{2}{3}}{100}$	66 $\frac{2}{3}$ %	0.6
$\frac{3}{4}$	$\frac{75}{100}$	75%	0.75	$\frac{1}{6}$	$\frac{16\frac{2}{3}}{100}$	16 $\frac{2}{3}$ %	0.166
$\frac{1}{5}$	$\frac{20}{100}$	20%	0.2	$\frac{5}{6}$	$\frac{83\frac{1}{3}}{100}$	83 $\frac{1}{3}$ %	0.833
$\frac{2}{5}$	$\frac{40}{100}$	40%	0.4	$\frac{1}{8}$	$\frac{12\frac{1}{2}}{100}$	12 $\frac{1}{2}$ %	0.125
$\frac{3}{5}$	$\frac{60}{100}$	60%	0.6	$\frac{3}{8}$	$\frac{37\frac{1}{2}}{100}$	37 $\frac{1}{2}$ %	0.375
$\frac{4}{5}$	$\frac{80}{100}$	80%	0.8	$\frac{5}{8}$	$\frac{62\frac{1}{2}}{100}$	62 $\frac{1}{2}$ %	0.625
$\frac{1}{10}$	$\frac{10}{100}$	10%	0.1	$\frac{7}{8}$	$\frac{87\frac{1}{2}}{100}$	87 $\frac{1}{2}$ %	0.875
$\frac{2}{10}$	$\frac{20}{100}$	20%	0.2	$\frac{1}{9}$	$\frac{11\frac{1}{9}}{100}$	11 $\frac{1}{9}$ %	0.1
$\frac{3}{10}$	$\frac{30}{100}$	30%	0.3	$\frac{1}{20}$	$\frac{5}{100}$	5%	0.05
$\frac{4}{10}$	$\frac{40}{100}$	40%	0.4	$\frac{1}{25}$	$\frac{4}{100}$	4%	0.04
$\frac{5}{10}$	$\frac{50}{100}$	50%	0.5	$\frac{1}{50}$	$\frac{2}{100}$	2%	0.02
$\frac{6}{10}$	$\frac{60}{100}$	60%	0.6	$\frac{1}{100}$	$\frac{1}{100}$	1%	0.01
$\frac{7}{10}$	$\frac{70}{100}$	70%	0.7	$\frac{1}{200}$	$\frac{1/2}{100}$	$\frac{1}{2}$ %	0.005
$\frac{8}{10}$	$\frac{80}{100}$	80%	0.8	$\frac{3}{25}$	$\frac{12}{100}$	12%	0.12
$\frac{9}{10}$	$\frac{90}{100}$	90%	0.9	$\frac{11}{20}$	$\frac{55}{100}$	55%	0.55
$\frac{10}{10}$	$\frac{100}{100}$	100%	1	$\frac{7}{50}$	$\frac{14}{100}$	14%	0.14
	$\frac{200}{100}$	200%	2	$\frac{1}{7}$	$\frac{14\frac{2}{7}}{100}$	14 $\frac{2}{7}$ %	0.142857

Week 20

for Tuesday.

- 1) a) approximately \$27,000 b) approximately \$63,000
3) a) \$1,680 b) \$2,400 c) $P = RxH$
4) a) \$64.80 b) \$22,400 c) $F = B + RxB$
5) a) \$21 b) \$4.50 c) $F = B - RxB$

for Thursday.

- 1c) Printing = \$18,000; Transportation = \$2880; Shipping = \$10,080
3) \$1,200 4) \$107.50 5) \$87.50

Week 21

Individual Work:

- 1) 780 4) 69 7) 120 10) 13 13) 50% 16) 10%
2) 46.8 5) 60 8) 54 11) 26 14) 20% 17) 20%
3) 20 6) 1,200 9) 5.4 12) 0.26 15) 80% 18) 66.25%

for Tuesday Group Work.

- 1) \$128.4 2) \$58.50 3) \$3,450 4) \$16.50
5) a) 1.4 b) 0.651 c) 0.0909 d) 1.58
6) 120

for Thursday Group Work.

- 1) 6 and 28 2) $1 + 2 + 4 + 8 + 16 + 31 + 62 + 124 + 248 = 496$

Week 22

for Tuesday.

- 1) a) 0.24 b) 1.057 c) 1.032
2) There are two possible solutions:

A	B	C	D
C	D	A	B
D	C	B	A
B	A	D	C

A	B	C	D
D	C	B	A
B	A	D	C
C	D	A	B

for Thursday.

8128 and 33,550,336

Week 23

- 1) 8128. and 33,550,336
2) 168,000 ounces or 10,500 pounds or $5\frac{1}{4}$ tons

3)

a) 78	$\times 319$
$\times 45$	1053
390	1170
$+ 3120$	$+ 35100$
$\hline 3510$	$\hline 37323$

b) 117

- 4) abundance quotient = 1.047
5) 24 and 32

Week 24

Individual Work:

30-Scratch (using the magic numbers 3,5,6,7)

Here's what I came up with, but of course, you may have come up with different ways to do it.

$$5 = \frac{5}{(7-6)^3}$$

$$6 = 6 \times (5 + 3 - 7)$$

$$12 = \frac{6^{(7-5)}}{3}$$

$$13 = 5 + 6 + \sqrt{7-3}$$

$$17 = \frac{6 \times 5}{3} + 7$$

$$18 = 5^{(6 \div 3)} - 7$$

$$29 = 6^{(5-3)} - 7$$

The Fifth Perfect Number. Here is the table:

1	<u>33,550,336</u>
2	16,775,168
4	8,387,584
8	4,193,792
16	2,096,896
32	1,048,448
64	524,224
128	262,112
256	131,056
512	65,526
1024	32,764
2048	16,382
4096	8191

Group Work:

3) $1 + 2 + 4 + 8 + 16 + 32 + 64 + 127 + 254 + 508 + 1016 + 2032 + 4064 = 8128$

- 4) a. The possible answers are three more than multiples of 20 (e.g., 23, 43, 63, etc.).
b. The answer is 4:45. Fifteen minutes ago it was 30 minutes after 4 o'clock.
Now it is 15 minutes before 5 o'clock.