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DAT Quantitative Reasoning in 30 Days

The Ultimate Crash Course to Preparing for the DAT Quantitative Reasoning Test

By

Reza Nazari & Ava Ross

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Description

The goal of this book is simple. It will help you incorporate the best method and the right strategies to prepare for the DAT Quantitative Reasoning Math FAST and EFFECTIVELY.

DAT Quantitative Reasoning in 30 Days helps you learn all Math topics that you will need to prepare for the DAT *Quantitative Reasoning* test. You only need to spend about 90–120 minutes daily in your 30–day period in order to ace the test. This book with 2 complete DAT Quantitative Reasoning tests is all you will ever need to fully prepare for the DAT Quantitative Reasoning.

DAT Quantitative Reasoning in 30 Days provides students with the confidence and math skills they need to succeed on the DAT Quantitative Reasoning, providing a solid foundation of basic Math topics with abundant exercises for each topic. It is designed to address the needs of DAT test takers who must have a working knowledge of basic Math.

Whether you are intimidated by math, or even if you were the first to raise your hand in the Math classes, this book can help you accelerate the learning process and put you on the right track.

Inside the pages of this comprehensive book, students can learn basic math operations in a structured manner with a complete study program to help them understand essential math skills. It also has many exciting features, including:

- Dynamic design and easy–to–follow activities
- Step–by–step guide for all Math topics
- Targeted, skill–building practices
- A fun, interactive and concrete learning process
- Math topics are grouped by category, so you can focus on the topics you struggle on
- All solutions for the exercises are included, so you will always find the answers
- 2 Complete DAT Quantitative Reasoning Practice Tests that reflect the format and question types on DAT

DAT Quantitative Reasoning in 30 Days is for all DAT test takers. It is a breakthrough in Math learning — offering a winning formula and the most powerful methods for learning basic Math topics confidently. Each section offers step–by–step instruction and helpful hints, with a few topics being tackled each day. Two complete REAL DAT Quantitative Reasoning tests are provided on Days 29 and 30 to refine your Math skills.

Effortlessly and confidently follow the step–by–step instructions in this book to prepare for the DAT Quantitative Reasoning in a short period of time.

DAT Quantitative Reasoning in 30 Days **is the only book you'll ever need to master Basic Math topics!** It can be used as a self–study course – you do not need to work with a Math tutor. (It can also be used with a Math tutor).

You'll be surprised how fast you master the Math topics covering on DAT Quantitative Reasoning Test.

Ideal for self–study as well as for classroom usage.



About the Author

Reza Nazari is the author of more than 100 Math learning books including:
– Math and Critical Thinking Challenges: For the Middle and High School Student
– HiSET Math in 30 Days
– ASVAB Math Workbook 2018 – 2019
– Effortless Math Education Workbooks
– and many more Mathematics books …

Reza is also an experienced Math instructor and a test–prep expert who has been tutoring students since 2008. Reza is the founder of Effortless Math Education, a tutoring company that has helped many students raise their standardized test scores—and attend the colleges of their dreams. Reza provides an individualized custom learning plan and the personalized attention that makes a difference in how students view math.

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Day 1: Fractions

Math Topics that you'll learn today:

- ✓ Simplifying Fractions
- ✓ Adding and Subtracting Fractions
- ✓ Multiplying and Dividing Fractions
- ✓ Adding and Subtracting Mixed Numbers
- ✓ Multiplying and Dividing Mixed Numbers

Simplifying Fractions

Helpful Hints

- Evenly divide both the top and bottom of the fraction by 2, 3, 5, 7, ... etc.
- Continue until you can't go any further.

Example:

$$\frac{4}{12} = \frac{2}{6} = \frac{1}{3}$$

Simplify the fractions.

1) $\frac{22}{36}$

2) $\frac{8}{10}$

3) $\frac{12}{18}$

4) $\frac{6}{8}$

5) $\frac{13}{39}$

6) $\frac{5}{20}$

7) $\frac{16}{36}$

8) $\frac{18}{36}$

9) $\frac{20}{50}$

10) $\frac{6}{54}$

11) $\frac{45}{81}$

12) $\frac{21}{28}$

13) $\frac{35}{56}$

14) $\frac{52}{64}$

15) $\frac{13}{65}$

16) $\frac{44}{77}$

17) $\frac{21}{42}$

18) $\frac{15}{36}$

19) $\frac{9}{24}$

20) $\frac{20}{80}$

21) $\frac{25}{45}$

Adding and Subtracting Fractions

Helpful Hints

- For "like" fractions (fractions with the same denominator), add or subtract the numerators and write the answer over the common denominator.
- Find equivalent fractions with the same denominator before you can add or subtract fractions with different denominators.
- Adding and Subtracting with the same denominator:

$$\frac{a}{b}+\frac{c}{b}=\frac{a+c}{b}$$

$$\frac{a}{b}-\frac{c}{b}=\frac{a-c}{b}$$

Adding and Subtracting fractions with different denominators:

$$\frac{a}{b}+\frac{c}{d}=\frac{ad+cb}{bd}$$

$$\frac{a}{b}-\frac{c}{d}=\frac{ad-cb}{bd}$$

Add fractions.

1) $\frac{2}{3}+\frac{1}{2}$

2) $\frac{3}{5}+\frac{1}{3}$

3) $\frac{5}{6}+\frac{1}{2}$

4) $\frac{7}{4}+\frac{5}{9}$

5) $\frac{2}{5}+\frac{1}{5}$

6) $\frac{3}{7}+\frac{1}{2}$

7) $\frac{3}{4}+\frac{2}{5}$

8) $\frac{2}{3}+\frac{1}{5}$

9) $\frac{16}{25}+\frac{3}{5}$

Subtract fractions.

10) $\frac{4}{5}-\frac{2}{5}$

11) $\frac{3}{5}-\frac{2}{7}$

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

13) $\frac{8}{9}-\frac{3}{5}$

14) $\frac{3}{7}-\frac{3}{14}$

15) $\frac{4}{15}-\frac{1}{10}$

16) $\frac{3}{4}-\frac{13}{18}$

17) $\frac{5}{8}-\frac{2}{5}$

18) $\frac{1}{2}-\frac{1}{9}$

Multiplying and Dividing Fractions

Helpful Hints

- **Multiplying fractions:** multiply the top numbers and multiply the bottom numbers.
- **Dividing fractions:** Keep, Change, Flip
  Keep first fraction, change division sign to multiplication, and flip the numerator and denominator of the second fraction. Then, solve!

Example:

$$\frac{a}{b} \times \frac{c}{d} = \frac{a \times c}{b \times \mathrm{d}}$$

$$\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \times \frac{d}{c} = \frac{ad}{bc}$$

Multiplying fractions. Then simplify.

1) $\frac{1}{5} \times \frac{2}{3}$

2) $\frac{3}{4} \times \frac{2}{3}$

3) $\frac{2}{5} \times \frac{3}{7}$

4) $\frac{3}{8} \times \frac{1}{3}$

5) $\frac{3}{5} \times \frac{2}{5}$

6) $\frac{7}{9} \times \frac{1}{3}$

7) $\frac{2}{3} \times \frac{3}{8}$

8) $\frac{1}{4} \times \frac{1}{3}$

9) $\frac{5}{7} \times \frac{7}{12}$

Dividing fractions.

10) $\frac{2}{9} \div \frac{1}{4}$

11) $\frac{1}{2} \div \frac{1}{3}$

12) $\frac{6}{11} \div \frac{3}{4}$

13) $\frac{11}{14} \div \frac{1}{10}$

14) $\frac{3}{5} \div \frac{5}{9}$

15) $\frac{1}{2} \div \frac{1}{2}$

16) $\frac{3}{5} \div \frac{1}{5}$

17) $\frac{12}{21} \div \frac{3}{7}$

18) $\frac{5}{14} \div \frac{9}{10}$

Adding and Subtracting Mixed Numbers

Helpful Hints

Use the following steps for both adding and subtracting mixed numbers.

- Find the Least Common Denominator (LCD)
- Find the equivalent fractions for each mixed number.
- Add or subtract fractions after finding common denominator.
- Write your answer in lowest terms.

Example:

$1\frac{3}{4} + 2\frac{3}{8} = 4\frac{1}{8}$

$5\frac{2}{3} - 3\frac{2}{7} = 2\frac{8}{21}$

Add.

1) $4\frac{1}{2} + 5\frac{1}{2}$

2) $2\frac{3}{8} + 3\frac{1}{8}$

3) $6\frac{1}{5} + 3\frac{2}{5}$

4) $1\frac{1}{3} + 2\frac{2}{3}$

5) $5\frac{1}{6} + 5\frac{1}{2}$

6) $3\frac{1}{3} + 1\frac{1}{3}$

7) $1\frac{10}{11} + 1\frac{1}{3}$

8) $2\frac{3}{6} + 1\frac{1}{2}$

9) $5\frac{3}{5} + 5\frac{1}{5}$

10) $7 + \frac{1}{5}$

11) $1\frac{5}{7} + \frac{1}{3}$

12) $2\frac{1}{4} + 1\frac{1}{2}$

Subtract.

13) $4\frac{1}{2} - 3\frac{1}{2}$

14) $3\frac{3}{8} - 3\frac{1}{8}$

15) $6\frac{3}{5} - 5\frac{1}{5}$

16) $2\frac{1}{3} - 1\frac{2}{3}$

17) $6\frac{1}{6} - 5\frac{1}{2}$

18) $3\frac{1}{3} - 1\frac{1}{3}$

19) $2\frac{10}{11} - 1\frac{1}{3}$

20) $2\frac{1}{2} - 1\frac{1}{2}$

21) $6\frac{3}{5} - 2\frac{1}{5}$

22) $7\frac{2}{5} - 1\frac{1}{5}$

23) $2\frac{5}{7} - 1\frac{1}{3}$

24) $2\frac{1}{4} - 1\frac{1}{2}$

Multiplying and Dividing Mixed Numbers

Helpful Hints

1- Convert the mixed numbers to improper fractions.
2- Multiply or Divide fractions and simplify if necessary.

$$a\frac{c}{b} = a + \frac{c}{b} = \frac{ab \quad c}{b}$$

Example:

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

$\frac{7}{3} \times \frac{38}{7} = \frac{38}{3} = 12\frac{2}{3}$

$4\frac{1}{4} \div 2\frac{2}{3} = 1\frac{19}{32}$

Find each product.

1) $1\frac{2}{3} \times 1\frac{1}{4}$
2) $1\frac{3}{5} \times 1\frac{2}{3}$
3) $1\frac{2}{3} \times 3\frac{2}{7}$
4) $4\frac{1}{8} \times 1\frac{2}{5}$
5) $2\frac{2}{5} \times 3\frac{1}{5}$
6) $1\frac{1}{3} \times 1\frac{2}{3}$
7) $1\frac{5}{8} \times 2\frac{1}{2}$
8) $3\frac{2}{5} \times 2\frac{1}{5}$
9) $2\frac{2}{3} \times 4\frac{1}{4}$
10) $2\frac{3}{5} \times 1\frac{2}{4}$
11) $1\frac{1}{3} \times 1\frac{1}{4}$
12) $3\frac{2}{5} \times 1\frac{1}{5}$

Find each quotient.

13) $2\frac{1}{5} \div 2\frac{1}{2}$
14) $2\frac{3}{5} \div 1\frac{1}{3}$
15) $3\frac{1}{6} \div 4\frac{2}{3}$
16) $1\frac{2}{3} \div 3\frac{1}{3}$
17) $4\frac{1}{8} \div 2\frac{2}{4}$
18) $3\frac{1}{2} \div 2\frac{3}{5}$
19) $3\frac{5}{9} \div 1\frac{2}{5}$
20) $2\frac{2}{7} \div 1\frac{1}{2}$
21) $3\frac{1}{5} \div 1\frac{1}{2}$
22) $4\frac{3}{5} \div 2\frac{1}{3}$
23) $6\frac{1}{6} \div 1\frac{2}{3}$
24) $2\frac{2}{3} \div 1\frac{1}{3}$

Answers of Worksheets – Day 1

Simplifying Fractions

1) $\frac{11}{18}$
2) $\frac{4}{5}$
3) $\frac{2}{3}$
4) $\frac{3}{4}$
5) $\frac{1}{3}$
6) $\frac{1}{4}$
7) $\frac{4}{9}$
8) $\frac{1}{2}$
9) $\frac{2}{5}$
10) $\frac{1}{9}$
11) $\frac{5}{9}$
12) $\frac{3}{4}$
13) $\frac{5}{8}$
14) $\frac{13}{16}$
15) $\frac{1}{5}$
16) $\frac{4}{7}$
17) $\frac{1}{2}$
18) $\frac{5}{12}$
19) $\frac{3}{8}$
20) $\frac{1}{4}$
21) $\frac{5}{9}$

Adding and Subtracting Fractions

1) $\frac{7}{6}$
2) $\frac{14}{15}$
3) $\frac{4}{3}$
4) $\frac{83}{36}$
5) $\frac{3}{5}$
6) $\frac{13}{14}$
7) $\frac{23}{20}$
8) $\frac{13}{15}$
9) $\frac{31}{25}$
10) $\frac{2}{5}$
11) $\frac{11}{35}$
12) $\frac{1}{6}$
13) $\frac{13}{45}$
14) $\frac{3}{14}$
15) $\frac{1}{6}$
16) $\frac{1}{36}$
17) $\frac{9}{40}$
18) $\frac{7}{18}$