

Grade 5 · Dividing Whole Numbers · Test Answer Key

Common Core 5.NBT.B.6 · mathovore.fr

This answer key gives a worked solution and a scoring guide for every question. Award points for correct steps as well as correct answers, and give follow-through credit when an earlier error is carried correctly into later parts. The total is 20 points.

Grade 5 Common Core: 5.NBT.B.6

Question 1: Divide by one-digit and tens (2 points)

(a)

1. $6 \times 1,000 = 6,000$, and $8,424 - 6,000 = 2,424$.
2. $6 \times 400 = 2,400$, and $2,424 - 2,400 = 24$.
3. $6 \times 4 = 24$, and $24 - 24 = 0$.

Check: $6 \times 1,404 = 8,424$.

(b)

1. $40 \times 70 = 2,800$, and $2,880 - 2,800 = 80$.
2. $40 \times 2 = 80$, and $80 - 80 = 0$.

Check: $40 \times 72 = 2,880$.

(a) 1,404. (b) 72.

Scoring: 1 point for each correct quotient.

Question 2: Divide by two-digit numbers (2 points)

(a)

1. $24 \times 30 = 720$, and $912 - 720 = 192$.
2. $24 \times 8 = 192$, and $192 - 192 = 0$.

Check: $24 \times 38 = 912$.

(b)

1. $13 \times 100 = 1,300$, and $1,573 - 1,300 = 273$.
2. $13 \times 20 = 260$, and $273 - 260 = 13$.
3. $13 \times 1 = 13$, and $13 - 13 = 0$.

Check: $13 \times 121 = 1,573$.

(a) 38. (b) 121.

Scoring: 1 point for each correct quotient.

Question 3: Estimate and calculate (2 points)

(a) 3,892 is close to 4,000 and 41 is close to 40, so $4,000 \div 40 = 100$.

(b)

1. $41 \times 90 = 3,690$, and $3,892 - 3,690 = 202$.
2. $41 \times 4 = 164$, and $202 - 164 = 38$.

Check: $41 \times 94 = 3,854$, and $3,854 + 38 = 3,892$.

(a) About 100. (b) 94 R 38.

Scoring: 1 point for a reasonable estimate (from 90 to 100); 1 point for the exact quotient and remainder.

	90	4	left over
41	3,690	164	38

$$3,892 \div 41 = 94 \text{ R } 38$$

Area model for the exact quotient.

Question 4: Complete the area model (2 points)

(a) $26 \times 30 = 780$ and $26 \times 4 = 104$; $780 + 104 = 884$.

(b) $30 + 4 = 34$.

(a) 780 and 104. (b) 34.

Scoring: 1 point for both products; 1 point for the quotient.

	30	4
26	780	104

$$884 \div 26 = 34$$

Completed area model.

Question 5: Quotient with a remainder (2 points)

1. $37 \times 200 = 7,400$, and $7,845 - 7,400 = 445$.
2. $37 \times 10 = 370$, and $445 - 370 = 75$.
3. $37 \times 2 = 74$, and $75 - 74 = 1$.

Check: $37 \times 212 = 7,844$, and $7,844 + 1 = 7,845$.

212 R 1

Scoring: 1 point for the quotient 212; 1 point for the remainder 1.

$$\begin{array}{r}
 \overline{) 7845} \\
 \underline{74} \\
 44 \\
 \underline{74} \\
 75 \\
 \underline{74} \\
 1
 \end{array}$$

Long division.

Question 6: Check Jamal's answer (2 points)

$12 \times 54 = 648$, which is not 6,408.

1. $12 \times 500 = 6,000$, and $6,408 - 6,000 = 408$.
2. $12 \times 30 = 360$, and $408 - 360 = 48$.
3. $12 \times 4 = 48$, and $48 - 48 = 0$.

Check: $12 \times 534 = 6,408$.

Jamal is wrong; the quotient is 534.

Scoring: 1 point for a valid check showing 54 does not work; 1 point for 534.

Question 7: Bags of apples for sale (3 points)

(a)

1. $15 \times 100 = 1,500$, and $2,400 - 1,500 = 900$.
2. $15 \times 60 = 900$, and $900 - 900 = 0$.

Check: $15 \times 160 = 2,400$.

(b) $160 \times 3 = 480$.

(a) 160 bags. (b) \$480.

Scoring: (a) 1 point for a correct method, 1 point for 160; (b) 1 point for \$480 (follow-through allowed).

Question 8: Stickers in albums (2 points)

1. $48 \times 60 = 2,880$, and $3,000 - 2,880 = 120$.
2. $48 \times 2 = 96$, and $120 - 96 = 24$.

Check: $48 \times 62 = 2,976$, and $2,976 + 24 = 3,000$.

62 full albums and 24 stickers left over.

Scoring: 1 point for 62 albums; 1 point for 24 stickers left.

Question 9: Eggs at the bakery (3 points)

(a)

1. $14 \times 100 = 1,400$, and $2,520 - 1,400 = 1,120$.
2. $14 \times 80 = 1,120$, and $1,120 - 1,120 = 0$.

Check: $14 \times 180 = 2,520$.

(b)

1. $180 \times 20 = 3,600$, and $4,320 - 3,600 = 720$.
2. $180 \times 4 = 720$, and $720 - 720 = 0$.

Check: $180 \times 24 = 4,320$.

(a) 180 eggs. (b) 24 days.

Scoring: (a) 1 point for a correct method, 1 point for 180; (b) 1 point for 24 days (follow-through allowed).

Total
20 points