

تجميعية أسئلة وفق الهيكل الوزاري الجديد منهج ريفيل



تم تحميل هذا الملف من موقع المناهج الإماراتية

موقع المناهج ⇨ المناهج الإماراتية ⇨ الصف السابع ⇨ رياضيات ⇨ الفصل الأول ⇨ ملفات متنوعة ⇨ الملف

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منهج انجليزي | ملخصات وتقارير | مذكرات وبنوك | الامتحان النهائي | للمدرس

المزيد من مادة
رياضيات:

إعداد: Amro Abdulkader

التواصل الاجتماعي بحسب الصف السابع



صفحة المناهج
الإماراتية على
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف السابع والمادة رياضيات في الفصل الأول

نموذج إجابة تجميعية شاملة وفق كامل الهيكل الوزاري منهج ريفيل

1

تجميعية شاملة وفق كامل الهيكل الوزاري منهج ريفيل بدون الحل

2

ملزمة تجميعية أسئلة وفق الهيكل الوزاري منهج بريدج بدون الحل

3

تجميعية أسئلة الكتاب وفق الهيكل الوزاري الجديد منهج بريدج

4

نموذج إجابة تجميعية شاملة وفق كامل الهيكل الوزاري منهج بريدج

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Student Name:

Date:

Academic Year	2025-2026	Term	1	Subject	Math\Reveal
Grade\stream	7\General	Number Of MCQ	20	Marks Of MCQ	3
Maximum over Grade	100	Number Of FRQ	5	Marks Of FRQ	(4-12)
Exam Duration	150 min	Mode of Implementation	SwiftAssess & Paper-Based		
Calculator	Not Allowed	الألة الحاسبة	غير مسموحة		

Question السؤال	Lesson الدرس	Example/ Exercise مثال/تمرين	Page الصفحة
MCQ - الأسئلة الموضوعية	1	Find unit rates when one or both quantities are fractions	1 to 6 11
	2	Use models and ratio reasoning to understand how a proportional relationship can exist between quantities	1 to 7 19
	3	Determine if a relationship is proportional by analyzing its graph	1 to 2 39
	4	Find the constant of proportionality from graph	3 to 4 39
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	7	Use proportional relationships to find the amount to pay for a tip and the amount of markup on items	11 to 14 90
	8	Use proportional relationships to find the amount of discount or markdown	1 to 9 97
	9	Use the simple interest formula to find the amount of interest earned for a given principal, at a given interest rate, for a given period of time	1 to 7 105
	10	Use proportional relationships to find the amount of commission earned on sales and the amount of fees for certain services	1 to 6 113
	11	Use different methods, including algebra tiles, number lines, or absolute value, to add integers	1 to 8 137
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	13	Use number lines and mathematical properties to multiply integers	1 to 9 157
	14	Use the order of integer operations to evaluate expressions	1 to 6 169
	15	Convert fractions to decimal equivalents using division	1 to 12 183
	16	Find the additive inverse of a rational number	1 to 6 195
	17	Add rational numbers	7 to 14 195
	18	Use the rules for multiplying integers to multiply rational numbers	1 to 6 211
	19	Use the rules for dividing integers to divide rational numbers	1 to 12 219
	20	Add, subtract, multiply, and divide rational numbers	1 to 6 225
FRQ - الأسئلة المقالية	21	Determine whether two quantities shown in a table are in a proportional relationship by testing for equivalent ratios	1 to 8 29
	22	Use proportional relationships to solve percent of change problems	1 to 8 71
	23	Use number lines and mathematical properties to multiply integers Use a related multiplication sentence to divide integers	10 to 13 157 7 to 12 165
	24	Find the additive inverse of a rational number	1 to 6 195
	25	Subtract rational numbers by adding the additive inverse	Learn 197 1 to 12 201
"Attached are the Mathematics structure questions – Please ensure the correctness of the questions and page numbers from the structure guide in the LMS and the student textbook – I wish you all the best and success."		مرفق أسئلة هيكل الرياضيات - الرجاء التأكد من صحة الأسئلة وأرقام الصفحات من الهيكل في بوابة التعلم الذكي والكتاب المدرسي - أتمنى لكم التوفيق والنجاح.	

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الأسئلة الموضوعية - MCQ

1	Find unit rates when one or both quantities are fractions	1 to 6	11
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Lesson 1-1

Unit Rates Involving Ratios of Fractions

Solve each problem. Use any strategy, such as a bar diagram, double number line, ratio table, or division.

1. A truck driver drove 48 miles in 45 minutes. At this rate, how many miles can the truck driver drive in one hour? (Example 1)
2. Russell runs $\frac{9}{10}$ mile in 5 minutes. At this rate, how many miles can he run in one minute? (Example 1)
3. A small airplane flew 104 miles in 50 minutes. At this rate, how many miles can it fly in one hour? ($50 \text{ minutes} = \frac{5}{6} \text{ hour}$) (Example 1)
4. DeAndre downloaded 8 apps onto his tablet in 12 seconds. At this rate, how many apps could he download in one minute? ($12 \text{ seconds} = \frac{1}{5} \text{ minute}$) (Example 1)
5. In Lixue's garden, the green pepper plants grew 5 inches in $\frac{3}{4}$ month. At this rate, how many feet can they grow in one month? (Let $5 \text{ inches} = \frac{5}{9} \text{ foot}$) (Example 2)
6. Thunder from a bolt of lightning travels $\frac{1}{10}$ mile in $\frac{1}{2}$ second. At this rate, how many miles can it travel in one second? (Example 2)

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الأسئلة الموضوعية - MCQ

2	Use models and ratio reasoning to understand how a proportional relationship can exist between quantities	1 to 7	19
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Lesson 1-2**Understand Proportional Relationships**

Determine if each situation represents a proportional relationship. Explain your reasoning. (Examples 1 and 2)

1. A salad dressing calls for 3 parts oil and 1 part vinegar. Manuela uses 2 tablespoons of vinegar and 6 tablespoons of oil to make her salad dressing.
2. A specific shade of orange paint calls for 2 parts yellow and 3 parts red. Catie uses 3 cups of yellow paint and 4 cups of red paint to make orange paint.
3. A saltwater solution for an aquarium calls for 35 parts salt to 1000 parts water. Tareq used 7 tablespoons of salt and 200 tablespoons of water.
4. A conveyor belt moves at a constant rate of 12 feet in 3 seconds. A second conveyor belt moves 16 feet in 4 seconds.
5. A tectonic plate in Earth's crust moves at a constant rate of 4 centimeters per year. In a different part of the world, another tectonic plate moves at a constant rate of 30 centimeters in ten years.
6. A strand of hair grows at a constant rate of $\frac{1}{2}$ inch per month. A different strand of hair grows at a constant rate of 4 inches per year.

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7. Multiselect One blend of garden soil is 1 part minerals, 1 part peat moss, and 2 parts compost. Select all of the mixtures below that are in a proportional relationship with this blend.

- ☐ 5 ft³ minerals, 5 ft³ peat moss, 10 ft³ compost
- ☐ 10 ft³ minerals, 15 ft³ peat moss, 15 ft³ compost
- ☐ 12 ft³ minerals, 12 ft³ peat moss, 24 ft³ compost
- ☐ 20 ft³ minerals, 20 ft³ peat moss, 40 ft³ compost
- ☐ 100 ft³ minerals, 100 ft³ peat moss, 200 ft³ compost
- ☐ 50 ft³ minerals, 50 ft³ peat moss, 50 ft³ compost



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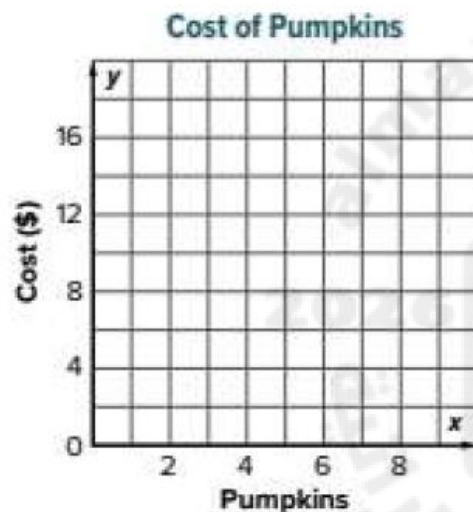
الأسئلة الموضوعية - MCQ

3	Determine if a relationship is proportional by analyzing its graph	1 to 2	39
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Lesson 1-4 Graphs of Proportional Relationships

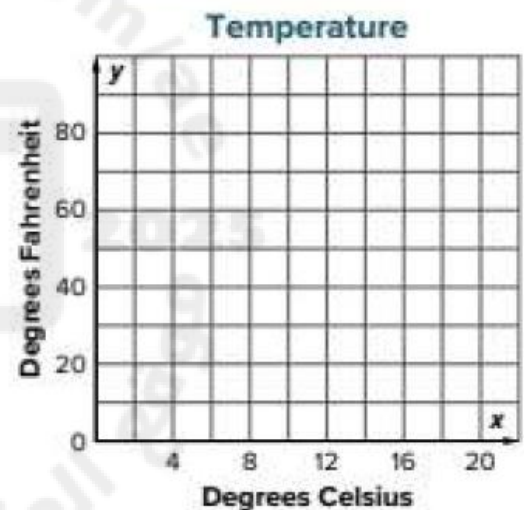
1. The cost of pumpkins is shown in the table. Determine whether the cost of a pumpkin is proportional to the number bought by graphing the relationship on the coordinate plane. Explain. (Example 1)

Number of Pumpkins	0	1	2	3	4
Cost (\$)	0	4	8	12	16



2. The table shows temperatures in degrees Celsius and their equivalent temperatures in degrees Fahrenheit. Determine whether the temperature in degrees Fahrenheit is proportional to the temperature in degrees Celsius by graphing the relationship on the coordinate plane. Explain. (Example 2)

Celsius (degrees)	0	5	10	15	20
Fahrenheit (degrees)	32	41	50	59	68



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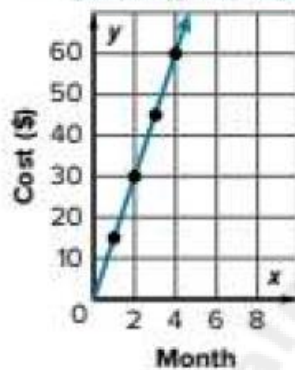
الأسئلة الموضوعية - MCQ

4	Find the constant of proportionality from graph	3 to 4	39
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Lesson 1-4 Graphs of Proportional Relationships

3. The total cost of online streaming is proportional to the number of months. What is the constant of proportionality? (Example 3)

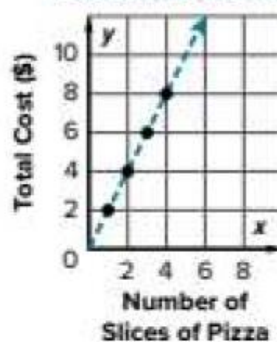
Online Streaming of TV Shows/Movies



Test Practice

4. **Open Response** The cost per slice of pizza is proportional to the number of slices as shown in the graph. What do the points (0, 0) and (1, 2) represent? (Example 4)

Pizza Slices Cost



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الأسئلة الموضوعية - MCQ			
5	Write equations to represent proportional relationships	3 to 6	47

Lesson 1-5 Equations of Proportional Relationships

3. Lincoln bought 3 bottles of an energy drink for \$4.50. Write an equation relating the total cost y to the number of energy drinks bought x . (Example 2)
4. The total cost of renting a cotton candy machine for 4 hours is \$72. What equation can be used to model the total cost y for renting the cotton candy machine x hours? (Example 2)
5. Marley used 7 cups of water to make 4 loaves of French bread. What equation can be used to model the total cups of water needed y for making x loaves of French bread? How many cups of water do you need for 6 loaves of French bread? (Example 3)
6. Mrs. Henderson used $6\frac{3}{4}$ yards of fabric to make 3 elf costumes. What equation can be used to model the total number of yards of fabric y for x costumes? How many yards of fabric do you need for 7 elf costumes? (Example 3)

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6	Use proportional relationships to find the amount of tax charged for an item	1 to 5	81

Lesson 2-2 Tax

Find the total cost to the nearest cent. (Examples 1–3)

- \$18 breakfast; 7% tax
- \$24 shirt; 6% tax
- \$49.95 pair of shoes; 5% tax
- Emily wants to buy new boots that cost \$68.
The sales tax rate in her city is $5\frac{1}{2}\%$. What is the total cost for the boots? (Example 1)
- Jack wants to buy a coat that costs \$74.95.
The sales tax rate in his city is $6\frac{1}{2}\%$. What is the total cost for the coat? (Example 1)

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7	Use proportional relationships to find the amount to pay for a tip and the amount of markup on items	11 to 14	90
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Lesson 2-3 Tips and Markups

11. Louise bought a frame and canvas online for \$125. Then she bought the supplies shown in the table and paid a 7% sales tax on these supplies only. She took the amount that she spent on the canvas, frame, and supplies, and marked up the price by 115%. How much did she charge for her painting? Round to the nearest cent.

Item	Cost (\$)
Brushes	12.50
Paint	19.50

12. Brendan has \$65 worth of balloons and flowers delivered to his mother. He pays the bill plus an 8.5% sales tax and an 18% tip on the total cost including tax. He also pays a \$10 delivery fee that is charged after the tax and tip. How much change does he receive if he pays with two \$50 bills? Round to the nearest cent.
13. Toru takes his dog to be groomed. The fee to groom the dog is \$70 plus a 10% tip. Is \$80 enough to pay for the service and tip? Explain your reasoning.

14. **MP Use a Counterexample** Determine if the following statement is *true* or *false*. If false, provide a counterexample.

It is impossible to increase the cost of an item by less than 1%.

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8	Use proportional relationships to find the amount of discount or markdown	1 to 9	97
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Lesson 2-4 Discounts

Find the sale price to the nearest cent. Use any strategy. (Example 1)

- \$140 coat; 10% discount
- \$80 boots; 25% discount
- \$325 tent; 15% discount
- A toy store is having a sale. A video game system has an original price of \$99. It is on sale for 40% off the original price. Find the sale price of the game system. Round to the nearest cent. (Example 1)
- A yearly coffee club subscription costs \$65. Avery received an offer for 62% off the subscription cost. What is the sale price of the subscription? Round to the nearest cent. (Example 1)
- During a clearance sale at a sporting goods store, skateboards were marked down 30%. On Saturday, an additional 25% was taken off already reduced prices of skateboards. If a skateboard originally cost \$119.50, what was the final price after all discounts had been taken? Round to the nearest cent. (Example 2)
- At an electronics store, a smart phone is on sale for 35% off the original price of \$679. If you use the store credit card, you can receive an additional 15% off the sale price. What is the final price of the smart phone if you use the store credit card? Round to the nearest cent. (Example 2)
- Gary had a 40% discount for new tires. The sale price of a tire was \$96.25. What was the original price of the tire? Round to the nearest cent. (Example 3)
- A swimsuit is on sale for \$45.50. If the sale price is discounted 5% from the original price, what was the original price? Round to the nearest cent. (Example 3)

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9	Use the simple interest formula to find the amount of interest earned for a given principal, at a given interest rate, for a given period of time	1 to 7	105
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Lesson 2-5 Interest

Find the simple interest earned, to the nearest cent, for each principal, interest rate, and time. (Example 1)

- \$530, 6%, 1 year
- \$1,200, 3.5%, 2 years
- \$750, 7%, 3 years
- Elena's father put \$460 into a savings account for her. The account pays 2.5% simple interest each year. If he neither adds nor withdraws money from the account, how much interest will the account earn after 4 years? Round to the nearest cent. (Example 1)
- Ethan put \$1,250 into a savings account. The account pays 4.5% simple interest on an annual basis. If he does not add or withdraw money from the account, how much interest will he earn after 2 years? Round to the nearest cent. (Example 1)
- Marc deposits \$840 into a savings account. The account pays 2% simple interest on an annual basis. If he does not add or withdraw money from the account, how much interest will he earn after 6 months? Round to the nearest cent. (Example 2)
- Nina's grandmother deposits \$3,000 into a savings account for her. The account pays 5.5% simple interest on an annual basis. If she does not add or withdraw money from the account, how much interest will she earn after 21 months? Round to the nearest cent. (Example 2)

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10	Use proportional relationships to find the amount of commission earned on sales and the amount of fees for certain services	1 to 6	113
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Lesson 2-6 Commission and Fees

Solve each problem. Use any strategy, such as a bar diagram, ratio table, or division.

- Mrs. Hollern works in a jewelry store and earns an 8.5% commission on every piece of jewelry she sells. How much commission would she earn for selling a necklace that costs \$4,600? (Example 1)
- Booker's father sells computer software and earns a 4.25% commission on every software package he sells. How much commission would he earn on a software package that sold for \$15,725? Round to the nearest cent. (Example 1)
- Chase wants to earn at least \$900 this month in commission. What is the minimum amount he needs to sell in order to earn \$900 if he earns a 3.3% commission on everything he sells? Round to the nearest dollar. (Example 2)
- Sophia needs to earn at least \$1,800 each month to cover her living expenses. What is the minimum amount she needs to sell in order to earn at least \$1,800 if she earns a 10.75% commission on everything she sells? Round to the nearest dollar. (Example 2)
- Mrs. Jackson needs to earn \$3,000 a month. How much does she need to sell if she earns 15% commission on everything she sells? (Example 2)
- Raymond purchases concert tickets online for \$43.50. There is a 3% processing fee. What is the total cost of the tickets? Round to the nearest cent. (Example 3)

Add. (Examples 1, 4, and 6)

1. $-3 + (-8)$
2. $-11 + (-13)$
3. $9 + (-35)$
4. $-28 + 14$
5. $-22 + (-10) + 15$
6. $18 + (-12) + 5$
7. Roger owes his father \$15. He borrows another \$25 from him. What integer represents the balance that he owes his father? (Example 2)
8. A football team lost 14 yards on their first play then lost another 7 yards on the next play. What integer represents the total change in yards for the two plays? (Example 2)

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الأسئلة الموضوعية - MCQ			
12	Use different methods, including algebra tiles, number lines, or the additive inverse, to subtract integers	1 to 9	147

Lesson 3-2 Subtract Integers**Subtract.** (Examples 1 and 2)

1. $9 - (-2)$

2. $-20 - 10$

3. $13 - (-63)$

4. $28 - 14$

5. $-10 - 0$

6. $-33 - 33$

7. $-18 - (-12)$

8. $-28 - (-13)$

9. $-18 - (-40)$



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الأسئلة الموضوعية - MCQ

13	Use number lines and mathematical properties to multiply integers	1 to 9	157
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Lesson 3-3

Multiply Integers

Multiply. (Examples 1, 3, and 5)

1. $4(-7)$

2. $-14(5)$

3. $9(-12)$

4. $-6(-8)$

5. $-10(-10)$

6. $-11(-13)$

7. $7(-5)(4)$

8. $(-8)(-7)(3)$

9. $-2(-12)(-8)$



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14	Use the order of integer operations to evaluate expressions	1 to 6	169
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Lesson 3-5 Apply Integer Operations**Evaluate each expression.** (Examples 1 and 2)

1. $-5(6) + (-9)$

2. $\frac{-36}{9} + (-7)$

3. $-4(-8) + (-10)$

4. $2(-5)(-6) - (-12)$

5. $10(-3)(4) - (-15)$

6. $2\left(\frac{-80}{4}\right) - 14$

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15	Convert fractions to decimal equivalents using division	1 to 12	183
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Lesson 4-1

Rational Numbers

Write each fraction as a decimal. Determine if the decimal is a terminating decimal.

1. $\frac{5}{8}$

2. $-\frac{3}{4}$

3. $\frac{2}{9}$

4. $-\frac{5}{6}$

5. $-\frac{4}{5}$

6. $\frac{23}{50}$

7. $-\frac{9}{22}$

8. $\frac{17}{24}$

9. $-\frac{1}{33}$

10. $-\frac{11}{40}$

11. $\frac{7}{32}$

12. $-\frac{3}{7}$

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الأسئلة الموضوعية - MCQ

16	Find the additive inverse of a rational number	1 to 6	195
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Lesson 4-2 Add Rational Numbers

Find the additive inverse of each rational number.

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

2. 0.25

3. $\frac{9}{10}$

4. -0.4

5. Quinn earned \$24.50 dog-sitting and \$12.70 for recycling cans. Find the total amount he earned and describe a situation in which Quinn ends the week with zero dollars.

(Example 2)

6. Rachel spent \$3.89 on a magazine and \$4.86 on a smoothie. Find the total amount she spent and describe a situation in which Rachel ends the day with zero dollars.

(Example 2)

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الأسئلة الموضوعية - MCQ

17	Add rational numbers	7 to 14	195
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Lesson 4-2

Add Rational Numbers

7. $3\frac{5}{6} + (-1\frac{1}{6})$

8. $-13\frac{1}{4} + 4\frac{3}{4}$

9. $-\frac{2}{3} + 2\frac{3}{8}$

10. $2\frac{1}{2} + (-\frac{1}{3})$

11. $-3.7 + \frac{1}{4}$

12. $\frac{1}{3} + 4.1$

13. $-1\frac{1}{4} + 0.75 + 0.45$

14. $-0.25 + 3\frac{1}{6} + 2\frac{1}{12}$



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الأسئلة الموضوعية - MCQ

18	Use the rules for multiplying integers to multiply rational numbers	1 to 6	211
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Lesson 4-4 Multiply Rational Numbers**Multiply. Write the product in simplest form.**

1. $-\frac{1}{2}\left(-\frac{4}{5}\right)$

2. $-\frac{3}{8}\left(-\frac{8}{9}\right)$

3. $-\frac{1}{4}\left(-\frac{4}{5}\right)$

4. $1\frac{4}{9}\left(-2\frac{4}{7}\right)$

5. $1\frac{1}{10}\left(-6\frac{7}{8}\right)$

6. $-5\frac{1}{4}\left(-4\frac{2}{3}\right)$



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19	Use the rules for dividing integers to divide rational numbers	1 to 12	219
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Lesson 4-5 Divide Rational Numbers**Divide. Write your answer in simplest fraction form.**

1. $-\frac{6}{7} \div \frac{3}{14}$

2. $-\frac{3}{4} \div \left(-\frac{1}{2}\right)$

3. $\frac{2}{3} \div \left(-\frac{4}{9}\right)$

4. $-\frac{4}{7} \div \frac{8}{9}$

5. $-\frac{3}{5} \div \left(-\frac{3}{4}\right)$

6. $-5\frac{3}{4} \div \left(2\frac{1}{16}\right)$

7. $7\frac{1}{2} \div \left(-2\frac{5}{6}\right)$

8. $-3\frac{4}{9} \div \left(-2\frac{1}{3}\right)$

9. $2\frac{2}{3} \div \left(-1\frac{1}{6}\right)$

10. $-3\frac{2}{5} \div \left(-5\frac{1}{10}\right)$

11. $-5\frac{1}{4} \div \frac{7}{8}$

12. $8\frac{1}{3} \div \left(-\frac{5}{9}\right)$

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الأسئلة الموضوعية - MCQ

20	Add, subtract, multiply, and divide rational numbers	1 to 6	225
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Lesson 4-6 Apply Rational Number Operations

Evaluate each expression if $a = \frac{7}{8}$, $b = -\frac{7}{16}$, $c = 0.8$, $d = \frac{1}{4}$.

1. $\frac{a}{b} - c + d$

2. $a + b + cd$

3. $c - a + \frac{b}{d}$

4. $\frac{b}{a} + \frac{c}{d}$

5. $d^2 - b$

6. $a + \frac{b}{c} - d$

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الأسئلة المقالية - FRQ			
21	Determine whether two quantities shown in a table are in a proportional relationship by testing for equivalent ratios	1 to 8	29

Lesson 1-3 Tables of Proportional Relationships

For each situation, complete the table given. Does the situation represent a proportional relationship? Explain.

1. The cost of a school lunch is \$2.50.

(Example 1)

Lunches Bought	1	2	3	4
Total Cost (\$)				

2. Anna walks her dog at a constant rate of 12 blocks in 8 minutes. (Example 1)

Number of Blocks	12	24	36	48
Number of Minutes				

3. Fun Center rents popcorn machines for \$20 per hour. In addition to the hourly charge, there is a rental fee of \$35. (Example 2)

Hours	1	2	3	4
Cost (\$)				

4. Jean has \$280 in her savings account. Starting next week, she will deposit \$30 in her account every week. (Example 2)

Weeks	1	2	3	4
Savings (\$)				

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5. Rocko paid \$12.50 for 25 game tickets. Louisa paid \$17.50 for 35 game tickets. What is the constant of proportionality? (Example 3)

6. A baker, in 70 minutes, iced 40 cupcakes and, in 49 minutes, iced 28 cupcakes. What is the constant of proportionality? (Example 3)

7. The table shows the amount of dietary fiber in bananas. Use the table to find the constant of proportionality. (Example 4)

Dietary Fiber (g)	9.3	18.6	27.9	37.2
Bananas	3	6	9	12

Test Practice

8. **Open Response** The table shows the distance traveled by a runner. Use the table to find the constant of proportionality.

Distance (mi)	4.55	13.65	22.75	31.85
Time (h)	0.5	1.5	2.5	3.5

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الأسئلة المقالية - FRQ			
22	Use proportional relationships to solve percent of change problems	1 to 8	71

Lesson 2-1 Percent of Change

Find each percent of change. Identify it as a percent of increase or decrease.

- 8 feet to 10 feet
- 62 trees to 31 trees
- 136 days to 85 days
- Last month, the online price of a powered ride-on car was \$250. This month, the online price is \$330. What is the percent of increase for the price of the car? (Example 1)
- At end of the first half of a football game, Nathan had carried the ball for 50.5 yards. By the end of the game, he carried the ball for a total of 75 yards. Find the percent of increase in the number of yards he carried. Round to the nearest whole tenth if necessary. (Example 1)

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6. A music video website received 5,000 comments on a new song they released. The next day, the artist performed the song on television and an additional 1,500 comments were made on the website. What was the percent of increase? (Example 1)

7. When Ricardo was 9 years old, he was 56 inches tall. Ricardo is now 12 years old and he is 62 inches tall. Find the percent of increase in Ricardo's height to the nearest tenth. (Example 1)

8. At a garage sale, Petra priced her scooter for \$15.50. She ended up selling it for \$10.75. Find the percent of decrease in the price of the scooter. Round to the nearest tenth if necessary. (Example 2)

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23	Use number lines and mathematical properties to multiply integers	10 to 13	157
	Use a related multiplication sentence to divide integers	7 to 12	165

Lesson 3-3 Multiply Integers

10. Evaluate ab if $a = -16$ and $b = -5$.

(Example 4)

11. Evaluate xy if $x = -10$ and $y = -7$.

(Example 4)

12. Evaluate xyz^2 if $x = -2$, $y = 7$, and $z = -4$.

(Example 6)

13. Evaluate a^2bc if $a = 3$, $b = -14$, and

$c = -6$. (Example 6)

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Lesson 3-4 Divide Integers**Evaluate each expression if $m = -32$, $n = 2$, and $p = -8$.**

7. $\frac{m}{n}$

8. $\frac{m}{p}$

9. $\frac{p}{n}$

Evaluate each expression if $f = -15$, $g = 5$, and $h = -45$.

10. $\frac{f}{g}$

11. $\frac{h}{f}$

12. $\frac{h}{g}$

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24	Find the additive inverse of a rational number	1 to 6	195

Lesson 4-2 Add Rational Numbers

Find the additive inverse of each rational number.

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

2. 0.25

3. $\frac{9}{10}$

4. -0.4

5. Quinn earned \$24.50 dog-sitting and \$12.70 for recycling cans. Find the total amount he earned and describe a situation in which Quinn ends the week with zero dollars.

(Example 2)

6. Rachel spent \$3.89 on a magazine and \$4.86 on a smoothie. Find the total amount she spent and describe a situation in which Rachel ends the day with zero dollars.

(Example 2)

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25	Subtract rational numbers by adding the additive inverse	Learn 1 to 12	197 201
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Lesson 4-3 Subtract Rational Numbers

Learn Subtract Rational Numbers

To subtract rational numbers in different forms, write the numbers in the same form.

The animation shows how to rewrite a problem using decimals. This method works if the mixed number can be rewritten as a terminating decimal.

Rewrite Using Decimals	
Steps	Example
1. Write the mixed number or fraction as a decimal.	$2\frac{2}{5} - 6.55 = 2\frac{4}{10} - 6.55$ $= 2.4 - 6.55$
2. Subtract the decimals.	$= 2.4 + (-6.55)$ $= -4.15$

The animation also shows how to rewrite a problem using fractions or mixed numbers. This method works when the fraction or mixed number cannot be written as a terminating decimal.

Rewrite Using Fractions or Mixed Numbers	
Steps	Example
1. Write the decimal as a fraction or mixed number.	$4.6 - 2\frac{2}{3} = 4\frac{6}{10} - 2\frac{2}{3}$ $= 4\frac{3}{5} - 2\frac{2}{3}$
2. Rewrite fractions with a common denominator.	$= 4\frac{9}{15} - 2\frac{10}{15}$
3. Subtract the fractions or mixed numbers.	$= 3\frac{24}{15} + (-2\frac{10}{15})$
4. Simplify if necessary.	$= 1\frac{14}{15}$

Use the chart below to find out how to subtract rational numbers written in different forms.

Words	Example
Terminating Decimals $(-\frac{1}{4}, \frac{3}{8}, \frac{7}{8}, \dots)$	
If the fractions are decimals that terminate, use decimals or fractions to subtract.	$-0.90 - \frac{1}{10} = -\frac{9}{10} - \frac{1}{10}$ or $= -0.9 - 0.1$

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Non-Terminating Decimals $\left(-\frac{1}{9}, \frac{2}{3}, \frac{11}{15} \dots\right)$

If the fractions are decimals
that repeat nonzero digits,
use fractions to subtract.

$$-\frac{1}{6} - 0.125 = -\frac{1}{6} - \frac{1}{8}$$

Subtract. Write in simplest form.

1. $-2.45 - (-3.9)$

2. $-4.6 - (-2.31)$

3. $5.47 - (-2.8)$

4. $-6.2 - 3.79$

5. $7\frac{5}{12} - \left(-3\frac{3}{4}\right)$

6. $5\frac{9}{10} - \left(-8\frac{2}{5}\right)$

7. $-\frac{7}{8} - 2\frac{1}{6}$

8. $-\frac{8}{15} - 3\frac{4}{5}$

9. $-9\frac{7}{10} - \left(-4\frac{3}{5}\right)$

10. $\frac{5}{6} - \left(-\frac{3}{4}\right)$

11. $-\frac{2}{3} - \left(-\frac{1}{2}\right)$

12. $-\frac{7}{10} - \left(-\frac{4}{15}\right)$