



وزارة التربية والتعليم
MINISTRY OF EDUCATION

Reavel Coverage Grade 9 GEN First Term of 2025- 2026

إحجز مكانك واستعد للامتحان بثقة كاملة

احصل على الشرح الكامل للصف من خلال:

التواصل والحجز عبر الـ Whatsapp
اضغط على الرقم: 0566991363



Mr. Aghead

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شرح الدروس



انضم للقناة



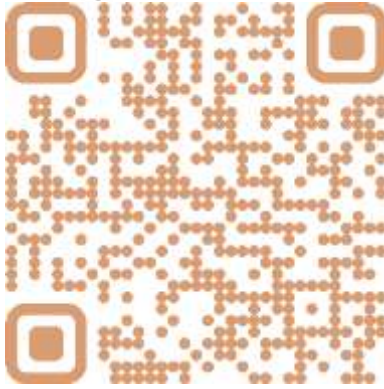
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0566991363

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يمكنكم الحصول على

بـ 99
درهم فقط

احصل على شرح مفصّل للهيكل كامل



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Question 1: Solve equations by using addition and subtraction (Page 81)

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Solve each equation

1. $v - 9 = 14$

a) 23
b) 116
c) -43
d) 22

2. $44 = t - 72$

a) 23
b) 116
c) -43
d) 22

3. $-61 = d + (-18)$

a) 23
b) 116
c) -43
d) 22

4. $18 + z = 40$

a) 23

b) 116

c) -43

d) 22

5. $-4a = 48$

a) -12

b) -11

c) 73

d) -29

6. $12t = -132$

a) -12

b) -11

c) 73

d) -29

7. $18 - (-f) = 91$

a) -12

b) -11

c) 73

d) -29

8. $-16 - (-t) = -45$

a) -12

b) -11

c) 73

d) -29

9. $\frac{1}{3}v = -5$

a) -15

b) -32

c) -54

d) -7

10. $\frac{u}{8} = -4$

a) -15

b) -32

c) -54

d) -7

11. $\frac{a}{6} = -9$

a) -15

b) -32

c) -54

d) -7

12. $-\frac{k}{5} = \frac{7}{5}$

a) -15

b) -32

c) -54

d) -7

13. $\frac{3}{4} = w + \frac{2}{5}$

a) $\frac{7}{20}$

b) $1\frac{1}{2}$

c) $-\frac{7}{15}$

d) 45

14. $-\frac{1}{2} + a = \frac{5}{8}$

a) $\frac{7}{20}$

b) $1\frac{1}{8}$

c) $-\frac{7}{15}$

d) 45

15. $-\frac{t}{7} = \frac{1}{15}$

a) $\frac{7}{20}$

b) $1\frac{1}{2}$

c) $-\frac{7}{15}$

d) 45

Question 2: Solve equations involving more than one operation (page 88)

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Use properties of equality to solve each equation.

1. $3t + 7 = -8$

a) -5

b) -1

c) -11

d) 70

2. $8 = 16 + 8n$

a) -5

b) -1

c) -11

d) 70

3. $-34 = 6m - 4$

a) -5

b) -1

c) -11

d) 70

4. $9x + 27 = -72$

a) -5

b) -1

c) -11

d) 70

5. $\frac{y}{5} - 6 = 8$

a) 70

b) -70

c) 27

d) -60

6. $\frac{f}{-7} - 8 = 2$

a) 70

b) -70

c) 27

d) -60

7. $1 + \frac{r}{9} = 4$

a) 70

b) -70

c) 27

d) -60

8. $\frac{k}{3} + 4 = -16$

a) 70

b) -70

c) 27

d) -60

9. $\frac{n-2}{7} = 2$

a) 16

b) -34

c) -61

d) 43

10. $14 = \frac{6+z}{-2}$

a) 16

b) -34

c) -61

d) 43

11. $-11 = \frac{a-5}{6}$

a) 16

b) -34

c) -61

d) 43

12. $\frac{22-w}{3} = -7$

a) 16

b) -34

c) -61

d) 43

Question 3: Use the Distributive Property to simplify expressions (page 43)

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Simplify each expression. If not possible, write simplified.

39. $13r + 5r$

a) $18r$

b) simplified

c) $2r + 7$

d) $13r^2 + 3r$

40. $3x^3 - 2x^2$

a) $18x$

b) simplified

c) $2x + 7$

d) $13x^2 + 3x$

41. $7m + 7 - 5m$

a) $18m$

b) simplified

c) $2m + 7$

d) $13m^2 + 3m$

42. $5z^2 + 3z + 8z^2$

a) $18z$

b) simplified

c) $2z + 7$

d) $13z^2 + 3z$

43. $7m + 2m + 5p + 4m$

a) $13m + 5p$

b) $11m + 4p$

c) $14m + 11p$

d) $8m^2 + 4p$

44. $6x + 4y + 5x$

a) $13x + 5y$

b) $11x + 4y$

c) $14x + 11y$

d) $8x^2 + 4y$

45. $3m + 5g + 6g + 11m$

a) $13m + 5g$

b) $11m + 4g$

c) $14m + 11g$

d) $8m^2 + 4g$

46. $4a + 5a^2 + 2a^2 + a^2$

a) $13a^2 + 5a$

b) $11a^2 + 4a$

c) $14a^2 + 11a$

d) $8a^2 + 4a$

47. $5k + 3k^3 + 7k + 9k^3$

a) $12k^2 + 12k$

b) $6k^2 + 5k$

c) $18k$

d) $8k^2$

48. $6x^2 + 14x - 9x$

a) $12x^2 + 12x$

b) $6x^2 + 5x$

c) $18x$

d) $8x^2$

49. $17g + g$

a) $12g^2 + 12g$

b) $6g^2 + 5g$

c) $18g$

d) $8g^2$

50. $2x^2 + 6x^2$

a) $12x^2 + 12x$

b) $6x^2 + 5x$

c) $18x$

d) $8x^2$

51. $7a^2 - 2a^2$

a) $5a^2$

b) simplified

c) $18a$

d) $2a^2 + a$

52. $3y^2 - 2y + 9$

a) $5y^2$

b) simplified

c) $18y$

d) $2y^2 + y$

53. $3q^2 + q - q^2$

a) $5q^2$

b) simplified

c) $18q$

d) $2q^2 + q$

Question 4: Prove that equations are identities or have no solution (page 98)

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Solve each equation and state whether the equation has one solution, no solution, or is an identity.

25. $-6y - 3 = 3 - 6y$

a) no solution

b) identity

26. $\frac{1}{2}(x + 6) = \frac{1}{2}x - 9$

a) no solution

b) identity

27. $8q + 12 = 4(3 + 2q)$

a) no solution

b) identity

28. $21(x + 1) - 6x = 15x + 21$

a) no solution

b) identity

29. $12y + 48 - 4y = 8(y - 6)$

a) no solution

b) identity

30. $8(z + 6) = 4(2z + 12)$

a) no solution

b) identity

Question 5: Evaluate numerical expressions
by using the order of operations (page 10)

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Evaluate each expression.

30. 7^2

a) 49

b) 2744

c) 64

d) 11

31. 14^3

a) 49

b) 2744

c) 64

d) 11

32. 2^6

a) 49

b) 2744

c) 64

d) 11

33. $35 - 3 \cdot 8$

a) 49

b) 2744

c) 64

d) 11

34. $18 \div 9 + 2 \cdot 6$

a) 14

b) 42

c) 36

d) 7

35. $10 + 8^3 \div 16$

a) 14

b) 42

c) 36

d) 7

36. $[(6^3 - 9) \div 23]4$

a) 14

b) 42

c) 36

d) 7

37. $\frac{8 + 3^3}{12 - 7}$

a) 14

b) 42

c) 36

d) 7

38. $\frac{(1+6)9}{5^2-4}$

a) 3

b) 56

c) 11

d) 2

39. $4(16 \div 2 + 6)$

a) 3

b) 56

c) 11

d) 2

40. $13 - \frac{1}{3}(11 - 5)$

a) 3

b) 56

c) 11

d) 2

41. $(5 \cdot 2 - 9) + 2 \cdot \frac{1}{2}$

a) 3

b) 56

c) 11

d) 2

Question 6: Rewrite linear equations in
slope-intercept form (page 235)

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Write an equation of a line in slope-intercept form with the given slope and y-intercept.

1. slope: 5, y-intercept: -3

a) $y = 5x - 3$

b) $y = -2x + 7$

c) $y = -6x - 2$

d) $y = 7x + 1$

2. slope: -2 , y-intercept: 7

a) $y = 5x - 3$

b) $y = -2x + 7$

c) $y = -6x - 2$

d) $y = 7x + 1$

3. slope: -6 , y-intercept: -2

a) $y = 5x - 3$

b) $y = -2x + 7$

c) $y = -6x - 2$

d) $y = 7x + 1$

4. slope: 7, y-intercept: 1

a) $y = 5x - 3$

b) $y = -2x + 7$

c) $y = -6x - 2$

d) $y = 7x + 1$

5. slope: 3, y-intercept: 2

a) $y = 3x + 2$

b) $y = -4x - 9$

c) $y = x - 12$

d) $y = 8$

6. slope: -4 , y-intercept: -9

a) $y = 3x + 2$

b) $y = -4x - 9$

c) $y = x - 12$

d) $y = 8$

7. slope: 1, y-intercept: -12

a) $y = 3x + 2$

b) $y = -4x - 9$

c) $y = x - 12$

d) $y = 8$

8. slope: 0, y-intercept: 8

a) $y = 3x + 2$

b) $y = -4x - 9$

c) $y = x - 12$

d) $y = 8$

Question 7: Construct arithmetic
sequences (page 255)

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Find the common difference of each arithmetic sequence. Then find the next three terms.

9. 0.02, 1.08, 2.14, 3.2, ...

a) 1.06: 4.26, 5.32, 6.38

b) 6: 30, 36, 42

c) -2: 13, 11, 9

d) 2: 23, 25, 27

10. 6, 12, 18, 24, ...

a) 1.06: 4.26, 5.32, 6.38

b) 6: 30, 36, 42

c) -2: 13, 11, 9

d) 2: 23, 25, 27

11. 21, 19, 17, 15, ...

a) 1.06: 4.26, 5.32, 6.38

b) 6: 30, 36, 42

c) -2: 13, 11, 9

d) 2: 23, 25, 27

12. $-\frac{1}{2}, 0, \frac{1}{2}, 1, \dots$

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a) $\frac{1}{2}: 1\frac{1}{2}, 2, 2\frac{1}{2}$
b) $\frac{1}{3}: 3\frac{2}{3}, 4, 4\frac{1}{3}$
c) $\frac{3}{4}: 3\frac{7}{12}, 4\frac{1}{3}, 5\frac{1}{12}$
d) 4: 19, 23, 27

13. $2\frac{1}{3}, 2\frac{2}{3}, 3, 3\frac{1}{3}, \dots$

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a) $\frac{1}{2}: 1\frac{1}{2}, 2, 2\frac{1}{2}$
b) $\frac{1}{3}: 3\frac{2}{3}, 4, 4\frac{1}{3}$
c) $\frac{3}{4}: 3\frac{7}{12}, 4\frac{1}{3}, 5\frac{1}{12}$
d) 4: 19, 23, 27

14. $\frac{7}{12}, 1\frac{1}{3}, 2\frac{1}{12}, 2\frac{5}{6}, \dots$

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a) $\frac{1}{2}: 1\frac{1}{2}, 2, 2\frac{1}{2}$
b) $\frac{1}{3}: 3\frac{2}{3}, 4, 4\frac{1}{3}$
c) $\frac{3}{4}: 3\frac{7}{12}, 4\frac{1}{3}, 5\frac{1}{12}$
d) 4: 19, 23, 27

15. 3, 7, 11, 15, ...

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a) $\frac{1}{2}: 1\frac{1}{2}, 2, 2\frac{1}{2}$
b) $\frac{1}{3}: 3\frac{2}{3}, 4, 4\frac{1}{3}$
c) $\frac{3}{4}: 3\frac{7}{12}, 4\frac{1}{3}, 5\frac{1}{12}$
d) 4: 19, 23, 27

16. 22, 19.5, 17, 14.5, ...

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a) -2.5: 12, 9.5, 7
b) -2: -5, -3, -1
c) -3: -14, -17, -20
d) 4: 19, 23, 27

17. -13, -11, -9, -7, ...

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a) -2.5: 12, 9.5, 7
b) -2: -5, -3, -1
c) -3: -14, -17, -20
d) 4: 19, 23, 27

18. -2, -5, -8, -11, ...

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a) -2.5: 12, 9.5, 7
b) -2: -5, -3, -1
c) -3: -14, -17, -20
d) 4: 19, 23, 27

Question 8: Construct arithmetic sequences (page 255)

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Determine whether each sequence is an arithmetic sequence.

1. $-3, 1, 5, 9, \dots$

a) an arithmetic sequence

b) not an arithmetic sequence

2. $\frac{1}{2}, \frac{3}{4}, \frac{5}{8}, \frac{7}{16}, \dots$

a) an arithmetic sequence

b) not an arithmetic sequence

3. $-10, -7, -4, 1, \dots$

a) an arithmetic sequence

b) not an arithmetic sequence

4. $-12.3, -9.7, -7.1, -4.5, \dots$

a) an arithmetic sequence

b) not an arithmetic sequence

5. 4, 7, 9, 12, ...

c) an arithmetic sequence

d) not an arithmetic sequence

6. 15, 13, 11, 9, ...

c) an arithmetic sequence

d) not an arithmetic sequence

7. 7, 10, 13, 16, ...

c) an arithmetic sequence

d) not an arithmetic sequence

8. -6, -5, -3, -1, ...

c) an arithmetic sequence

d) not an arithmetic sequence

Question 9: Recognize the properties of
equality and identity (page 31)

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Identify the property of equality used to justify each statement.

1. If $4 + 17 = 21$, then $21 = 4 + 17$.

- | |
|------------------------------------|
| a) Symmetric Property of Equality |
| b) Reflexive Property of Equality |
| c) Transitive Property of Equality |
| d) none of the above |

2. $x + 3 = x + 3$

- | |
|------------------------------------|
| a) Symmetric Property of Equality |
| b) Reflexive Property of Equality |
| c) Transitive Property of Equality |
| d) none of the above |

3. If $16 = 9 + 7$, then $9 + 7 = 16$.

- | |
|------------------------------------|
| a) Symmetric Property of Equality |
| b) Reflexive Property of Equality |
| c) Transitive Property of Equality |
| d) none of the above |

4. If $6 + 2 = 4 + 4$ and $4 + 4 = 8$, then $6 + 2 = 8$.

- | |
|------------------------------------|
| a) Symmetric Property of Equality |
| b) Reflexive Property of Equality |
| c) Transitive Property of Equality |
| d) none of the above |

Use the given property of equality to complete each statement.

5. If $23 + 14 = 37$, then $37 = 23 + \underline{\quad ? \quad}$;
Symmetric Property of Equality

a) 14

b) 12

c) 34

d) $b+5+12$

6. If $a + 5 = b + 3$ and $a + 5 = 12$, then $b + 3 = \underline{\quad ? \quad}$;
Transitive Property of Equality

a) 14

b) 12

c) 34

d) $b+5+12$

7. If $34 = 19 + 15$, then $19 + 15 = \underline{\quad ? \quad}$;
Symmetric Property of Equality

a) 14

b) 12

c) 34

d) $b+5+12$

8. $b + 5 + 12 = \underline{\quad ? \quad}$;
Reflexive Property of Equality

a) 14

b) 12

c) 34

d) $b+5+12$

Question 10: Solve proportions (page 113)

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Solve each proportion. If necessary, round to the nearest hundredth.

4. $\frac{15}{35} = \frac{g}{7}$

a) 3

b) 9.8

c) 12.92

d) 1.32

5. $\frac{7}{10} = \frac{m}{14}$

a) 3

b) 9.8

c) 12.92

d) 1.32

6. $\frac{8}{13} = \frac{v}{21}$

a) 3

b) 9.8

c) 12.92

d) 1.32

7. $\frac{w}{2} = \frac{4.5}{6.8}$

a) 3

b) 9.8

c) 12.92

d) 1.32

8. $\frac{1}{0.19} = \frac{12}{n}$

a) 2.28

b) 0.84

c) 1.2

d) 0.57

9. $\frac{2}{0.21} = \frac{8}{n}$

a) 2.28

b) 0.84

c) 1.2

d) 0.57

10. $\frac{2.4}{3.6} = \frac{k}{1.8}$

a) 2.28

b) 0.84

c) 1.2

d) 0.57

11. $\frac{t}{0.3} = \frac{1.7}{0.9}$

a) 2.28

b) 0.84

c) 1.2

d) 0.57

12. $\frac{7}{1.066} = \frac{z}{9.65}$

a) 63.37

b) 6

c) 3

d) 11

13. $\frac{x-3}{5} = \frac{6}{10}$

a) 63.37

b) 6

c) 3

d) 11

14. $\frac{7}{x+9} = \frac{21}{36}$

a) 63.37

b) 6

c) 3

d) 11

15. $\frac{10}{15} = \frac{4}{x-5}$

a) 63.37

b) 6

c) 3

d) 11

Question 11: Solve equations with the
variable on each side (page 97)

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Solve each equation.

1. $7c + 12 = -4c + 78$

a) 6

b) 4

c) 1

d) -2

2. $2m - 13 = -8m + 27$

a) 6

b) 4

c) 1

d) -2

3. $9x - 4 = 2x + 3$

a) 6

b) 4

c) 1

d) -2

4. $6 + 3t = 8t - 14$

a) 6

b) 4

c) 1

d) -2

5. $\frac{b-4}{6} = \frac{b}{2}$

a) -2

b) 6

c) 14

d) 34

6. $\frac{3v+12}{6} = \frac{4v}{3}$

a) -2

b) $2\frac{2}{5}$

c) 14

d) 34

7. $2(r+6) = 4(r+4)$

a) -2

b) 6

c) 14

d) 34

8. $6(n + 5) = 3(n + 16)$

a) 6

b) 14

c) -5

d) 12

9. $5(g + 8) - 7 = 117 - g$

a) 6

b) 14

c) -5

d) 12

10. $12 - \frac{4}{5}(x + 15) = \left(\frac{2}{5}x + 6\right)$

a) 6

b) 14

c) -5

d) 12

Question 12: Translate sentences into equations (page 71)

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Translate each sentence into an equation or formula.

9. Twice a increased by the cube of a equals b .

a) $2a + a^3 = b$

b) $(a+b)-7 = 6$

c) $a + b^2 = ab$

d) $4(a+b) = 6b$

10. Seven less than the sum of p and t is as much as 6.

a) $2p + t^3 = t$

b) $(p+t)-7 = 6$

c) $p + t^2 = pt$

d) $4(p+t) = 6t$

11. The sum of x and its square is equal to y times z .

a) $2x + x^3 = 0$

b) $(x+yz)-7 = 6$

c) $x + x^2 = yz$

d) $4(x+x^2) = 6yz$

12. Four times the sum of f and g is identical to six times g .

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a) $2g + f^3 = b$
b) $(g+f) - 7 = 6$
c) $g + f^2 = gf$
d) $4(g+f) = 6g$

13. The area A of a square is the length of a side ℓ squared.

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a) $\ell^2 = a$
b) $\ell = a+b+c$
c) $\ell + a^2 = \ell a^2$
d) $4(a+b) = 6\ell$

14. The perimeter P of a triangle is equal to the sum of the lengths of sides a , b , and c .

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a) $p^2 = a+b+c$
b) $p = a+b+c$
c) $a + p^2 = bc$
d) $4(p+a) = 6cb$

Question 13: Solve proportions (Page 114)

MCQ - Objective questions



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Stevenson's Market is selling 3 packs of stylus pens for \$5.00. How much will 10 packs of stylus pens cost at this price?

a) 16.67

b) 60

c) 69.4

d) 22.5

During basketball practice, Brent made 36 free throws in 3 minutes.

1. How many free throws will Brent make in 5 minutes ?

a) 16.67

b) 60

c) 69.4

d) 22.5

2. What assumption did you make in part a?

Human fingernails grow at an average rate of 3.47 millimeters per month .How much will they grow in 20 months?

a) 16.67

b) 60

c) 69.4

d) 22.5

Jasmine enlarged the size of a picture to a height of 15 inches. What is the new width of the picture if it was originally 6 inches wide by 4 inches tall?

a) 16.67

b) 60

c) 69.4

d) 22.5

Question 14: Graph and interpret
linear functions (page 236)

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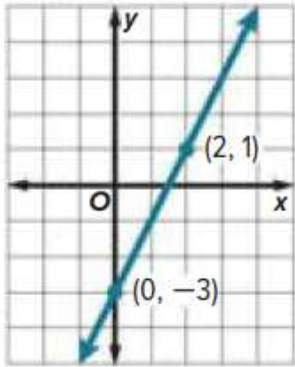
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Write an equation in slope-intercept form for each graph shown.

37.



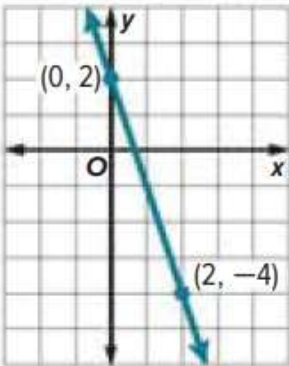
a) $y = 2x - 3$

b) $y = -3x + 2$

c) $y = -x - 1$

d) $y = x + 2$

38.



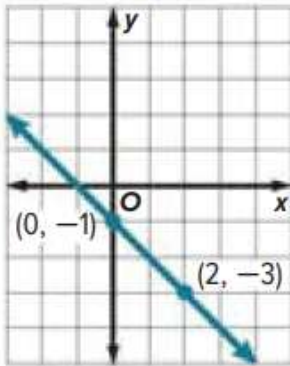
a) $y = 2x - 3$

b) $y = -3x + 2$

c) $y = -x - 1$

d) $y = x + 2$

39.



a) $y = 2x - 3$

b) $y = -3x + 2$

c) $y = -x - 1$

d) $y = x + 2$

Question 15: Apply translations to linear functions (page 247)

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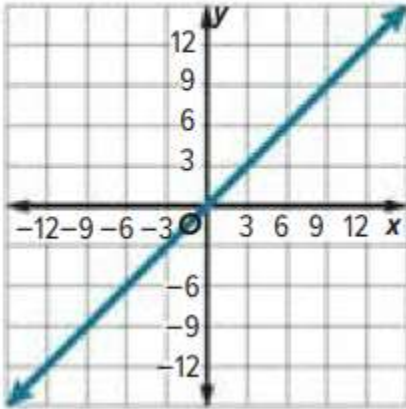
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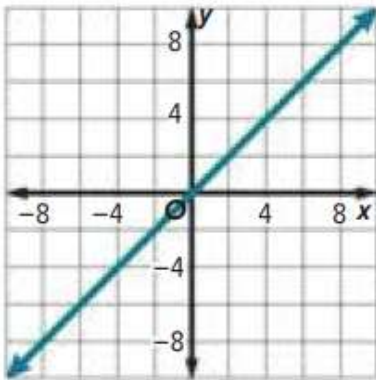
Describe the translation in each function as it relates to the graph of the parent function.

1. $g(x) = x + 11$



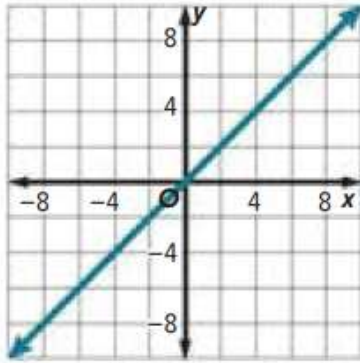
- | |
|---|
| a) This is a vertical shift up. The translation is a shift up 11 units. |
| b) This is a vertical shift down. The translation is a shift down 8 units. |
| c) This is a horizontal shift right (since 7 is subtracted from x). The translation is a shift right 7 units. |
| d) This is a horizontal shift left (since 12 is added to x). The translation is a shift left 12 units. |

2. $g(x) = x - 8$



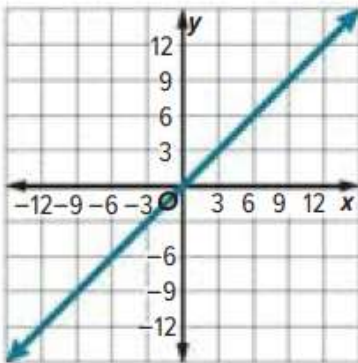
- | |
|---|
| a) This is a vertical shift up. The translation is a shift up 11 units. |
| b) This is a vertical shift down. The translation is a shift down 8 units. |
| c) This is a horizontal shift right (since 7 is subtracted from x). The translation is a shift right 7 units. |
| d) This is a horizontal shift left (since 12 is added to x). The translation is a shift left 12 units. |

3. $g(x) = (x - 7)$



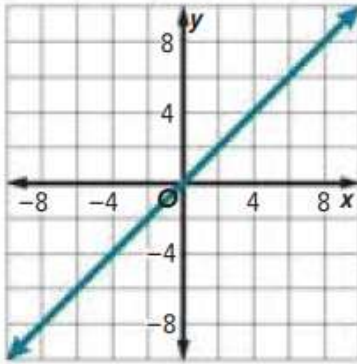
- | |
|---|
| a) This is a vertical shift up. The translation is a shift up 11 units. |
| b) This is a vertical shift down. The translation is a shift down 8 units. |
| c) This is a horizontal shift right (since 7 is subtracted from x). The translation is a shift right 7 units. |
| d) This is a horizontal shift left (since 12 is added to x). The translation is a shift left 12 units. |

4. $g(x) = (x + 12)$



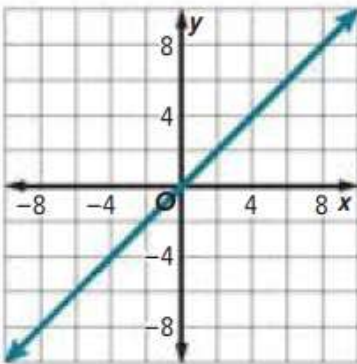
- | |
|---|
| a) This is a vertical shift up. The translation is a shift up 11 units. |
| b) This is a vertical shift down. The translation is a shift down 8 units. |
| c) This is a horizontal shift right (since 7 is subtracted from x). The translation is a shift right 7 units. |
| d) This is a horizontal shift left (since 12 is added to x). The translation is a shift left 12 units. |

5. $g(x) = (x + 10) - 1$



- a) This involves both a horizontal and a vertical shift. The $(x + 10)$ shifts the graph left 10 units. The $- 1$ shifts the graph down 1 unit. The translation is a shift left 10 units and down 1 unit.
- b) This involves both a horizontal and a vertical shift. The $(x - 9)$ shifts the graph right 9 units. The $+ 5$ shifts the graph up 5 units. The translation is a shift right 9 units and up 5 units.
- c) This is a horizontal shift right (since 7 is subtracted from x). The translation is a shift right 7 units.
- d) This is a horizontal shift left (since 12 is added to x). The translation is a shift left 12 units.

6. $g(x) = (x - 9) + 5$



- a) This involves both a horizontal and a vertical shift. The $(x + 10)$ shifts the graph left 10 units. The $- 1$ shifts the graph down 1 unit. The translation is a shift left 10 units and down 1 unit.
- b) This involves both a horizontal and a vertical shift. The $(x - 9)$ shifts the graph right 9 units. The $+ 5$ shifts the graph up 5 units. The translation is a shift right 9 units and up 5 units.
- c) This is a horizontal shift right (since 7 is subtracted from x). The translation is a shift right 7 units.
- d) This is a horizontal shift left (since 12 is added to x). The translation is a shift left 12 units.

Question 16: Write verbal expressions
for algebraic expressions (page 18)

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Write an algebraic expression for each verbal expression.

22. x more than 7

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a) $7+x$

b) $x-35$

c) $5x$

d) $7x$

23. a number less 35

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a) $7+n$

b) $n-35$

c) $5n$

d) n

24. 5 times a number

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a) $7+n$

b) $n-35$

c) $5n$

d) n

25. one third of a number

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a) $7+n$

b) $n-35$

c) $5n$

d) n

26. f divided by 10

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a) $\frac{f}{10}$

b) $\frac{45}{r}$

c) $3n+15$

d) $18-3d$

27. the quotient of 45 and r

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a) $\frac{f}{10}$

b) $\frac{45}{r}$

c) $3n+15$

d) $18-3d$

28. three times a number plus 16

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a) $\frac{f}{10}$

b) $\frac{45}{r}$

c) $3n+16$

d) $18-3d$

29. 18 decreased by 3 times d

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a) $\frac{f}{10}$

b) $\frac{45}{r}$

c) $3n+15$

d) $18-3d$

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30. k squared minus 11

a) $k^2 - 11$

b) $\frac{20}{k^5}$

c) $k+10$

d) $(k+2)-15$

31. 20 divided by t to the fifth power

a) $t^5 - 11$

b) $\frac{20}{t^5}$

c) $t+5$

d) $(t+2)-5$

32. the sum of a number and 10

a) $n^2 - 11$

b) $\frac{20}{n^5}$

c) $n+10$

d) $(n+2)-15$

33. 15 less than the sum of k and 2

a) $k^2 - 11$

b) $\frac{20}{k^5}$

c) $k+10$

d) $(k+2)-15$

34. the product of 18 and q

a) $18q$
b) $2q+6$
c) $q + 18$
d) q^{18}

35. 6 more than twice m

a) $18m$
b) $2m+6$
c) $5m$
d) $m+6$

Question 17: Use the Distributive Property to
evaluate expressions (page 42)

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Rewrite each expression using the Distributive Property. Then simplify.

23. $2(x + 4)$

a) $2x + 8$

b) $15 + 3x$

c) $32 - 24x$

d) $-6x + 18$

24. $(5 + n)3$

a) $2n + 8$

b) $15 + 3n$

c) $32 - 24n$

d) $-6n + 18$

25. $(4 - 3m)8$

a) $2m + 8$

b) $15 + 3m$

c) $32 - 24m$

d) $-6m + 18$

26. $-3(2x - 6)$

a) $2x + 8$

b) $15 + 3x$

c) $32 - 24x$

d) $-6x + 18$

27. $(2 - 4n)17$

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a) $34 - 68n$

b) $44n + 66$

c) $9 - 54n$

d) $-28n$

28. $11(4d + 6)$

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a) $34 - 68d$

b) $44d + 66$

c) $9 - 54d$

d) $64d - 28$

29. $(\frac{1}{3} - 2b)27$

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a) $34 - 68b$

b) $44b + 66$

c) $9 - 54b$

d) $32b + 6$

30. $4(8p + 16q - 7r)$

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a) $34p - 68rq$

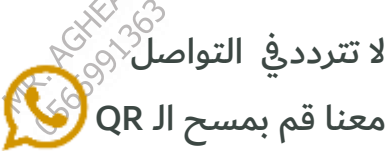
b) $44p + q + r + 66$

c) $9 - 54pqr$

d) $32p + 64q - 28r$

Question 18: Calculate and interpret slope
(page 226)

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Find the slope of the line that passes through each pair of points.

11. (4, 3), (-1, 6)

a) $-\frac{3}{5}$
b) $-\frac{3}{7}$
c) 1
d) undefined

12. (8, -2), (1, 1)

a) $-\frac{3}{5}$
b) $-\frac{3}{7}$
c) 1
d) undefined

13. (2, 2), (-2, -2)

a) $-\frac{3}{5}$
b) $-\frac{3}{7}$
c) 1
d) undefined

14. (6, -10), (6, 14)

a) $-\frac{3}{5}$
b) $-\frac{3}{7}$
c) 1
d) undefined

15. $(5, -4), (9, -4)$

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a) 0
b) $\frac{5}{17}$
c) $\frac{1}{6}$
d) undefined

16. $(11, 7), (-6, 2)$

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a) 0
b) $\frac{5}{17}$
c) $\frac{1}{6}$
d) undefined

17. $(-3, 5), (3, 6)$

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a) 0
b) $\frac{5}{17}$
c) $\frac{1}{6}$
d) undefined

18. $(-3, 2), (7, 2)$

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a) 0
b) $\frac{4}{3}$
c) $-\frac{14}{15}$
d) undefined

19. $(8, 10), (-4, -6)$

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a) 0
b) $\frac{4}{3}$
c) $-\frac{14}{15}$
d) undefined

20. $(-12, 15), (18, -13)$

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a) 0
b) $\frac{4}{3}$
c) $-\frac{14}{15}$
d) undefined

Question 19: Identify and graph step functions
(page 265)

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Suppose $f(x) = 2[x - 1]$.

a. Find $f(1.5)$.

a) 0
b) 2
c) 16
d) -6

b. Find $f(2.2)$.

a) 0
b) 2
c) 16
d) -6

c. Find $f(9.7)$.

a) 0
b) 2
c) 16
d) -6

d. Find $f(-1.25)$.

a) 0
b) 2
c) 16
d) -6

Question 20: Solve equations by using
multiplication and division (page 81)

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Solve each equation.

43. $12z = 108$

a) 9

b) -7

c) -12

d) -2

44. $-7t = 49$

a) 9

b) -7

c) -12

d) -2

45. $18f = -216$

a) 9

b) -7

c) -12

d) -2

46. $-22 = 11v$

a) 9

b) -7

c) -12

d) -2

47. $-6d = -42$

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a) 7

b) -4

c) 64

d) 144

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48. $96 = -24a$

a) 7

b) -4

c) 64

d) 144

49. $\frac{c}{4} = 16$

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a) 7

b) -4

c) 64

d) 144

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50. $\frac{a}{16} = 9$

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a) 7

b) -4

c) 64

d) 144

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51. $-84 = \frac{d}{3}$

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a) -252
b) 91
c) -52
d) -186

52. $-\frac{d}{7} = -13$

a) -252
b) 91
c) -52
d) -186

53. $\frac{t}{4} = -13$

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a) -252
b) 91
c) -52
d) -186

54. $31 = -\frac{1}{6}n$

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a) -252
b) 91
c) -52
d) -186

Question 21: Evaluate algebraic expressions
by using the order of operations (page 19)

Free response questions (FRQ)



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Evaluate each expression if $g = 2$, $r = 3$, and $t = 11$.

42. $g + 6t$

43. $7 - gr$

44. $r^2 + (g^3 - 8)^5$

45. $(2t + 3g) \div 4$

46. $t^2 + 8rt + r^2$

47. $3g(g + r)^2 - 1$

Evaluate each expression if $a = 8$, $b = 4$, and $c = 16$.

48. $a^2bc - b^2$

49. $\frac{c^2}{b^2} + \frac{b^2}{a^2}$

50. $\frac{2b + 3c^2}{4a^2 - 2b}$

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51. $\frac{3ab + c^2}{a}$

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52. $\left(\frac{a}{b}\right)^2 - \frac{c}{a-b}$

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53. $\frac{2a-b^2}{ab} + \frac{c-a}{b^2}$

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Question 22: Solve equations for specific variables. (2-7) (page 125)

Free response questions (FRQ)



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The formula $P = 2\ell + 2w$ represents the perimeter of a rectangle .In this formula, ℓ is the length of the rectangle and w is the width.

a. Solve the formula for ℓ .

b. Find the length when the width is 4 meters and the perimeter is 36 meters.

The formula $a = \frac{h}{b}$ can be used to find the batting average a of a batter who has h hits in b times at bat .

a. Solve the formula for b .

b. If a batter has a batting average of 0.325 and has 39 hits, how many times has the player been at bat ?

Thomas went to the store to buy videogames for \$13.50 each and controllers. The total amount Thomas spent can be represented by $c = 13.50g + p$, where c is the total cost, g is the number of games he bought, and p is the cost of the controllers. The controllers cost \$55 and Thomas spent \$136 total .

a. Solve the equation for g .

b. Find how many games Thomas bought .

The volume of a box V is given by the formula $V = \ell wh$, where ℓ is the length, w is the width, and h is the height .

a. Solve the formula for h .

b. What is the height of a box with a volume of 50 cubic meters, length of 10 meters, and width of 2 meters?

Question 23: Solve equations by applying the
Distributiv Property (page 98)

Free response questions (FRQ)



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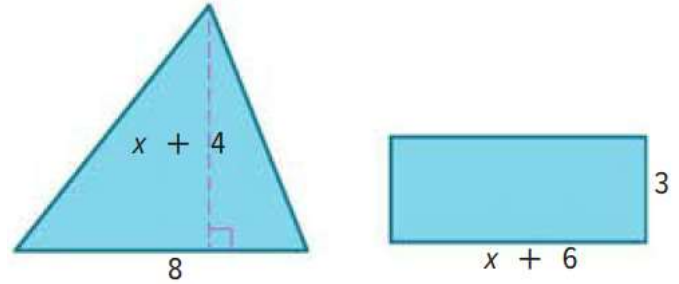
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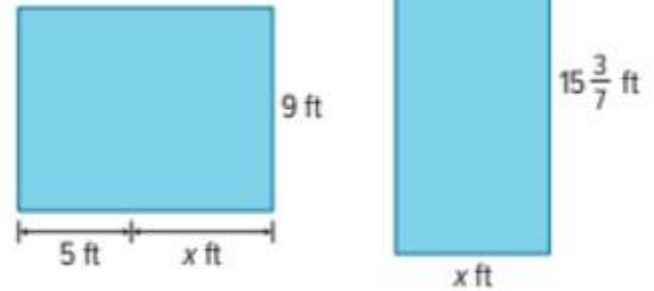
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Supplementary angles are two angles with measures that have a sum of 180° . Complementary angles are two angles with measures that have a sum of 90° . The measure of the supplement of an angle is 10° more than twice the measure of the complement of the angle. Let $90 - x$ equal the degree measure of the complement angle and $180 - x$ equal the degree measure of the supplement angle. Write and solve an equation to find the measure of the angle.

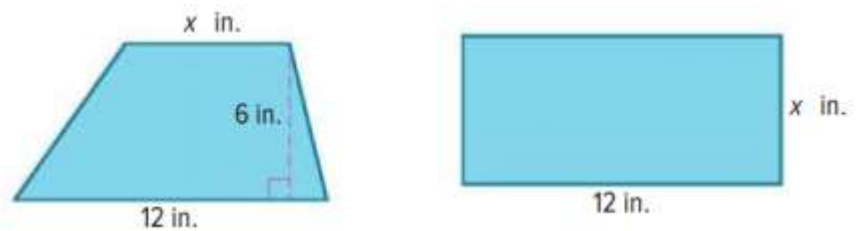
Write and solve an equation to find the value of x so that the figures have the same area.



Write and solve an equation to find the value of x so that the figures have the same area.



Write and solve an equation to find the value of x so that the figures have the same area. The area of a trapezoid is $\frac{1}{2}h(b_1 + b_2)$.



Question 24: Graph linear functions by using the
x- and y-intercepts (page 216)

Free response questions (FRQ)



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Graph each equation by using the x-and y-intercepts.

9. $y = 4 + 2x$

10. $5 - y = -3x$

11. $x = 5y + 5$

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12. $x + y = 4$

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13. $x - y = -3$

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14. $y = 8 - 6x$

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Question 25: Calculate and interpret rate of change (Page 225)

Free response questions (FRQ)



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اضغط على الرقم: 0566991363



Mr. Aghead

The table shows the population density for the state of Texas in various years. Find the average annual rate of change in the population density from 2000 to 2009.

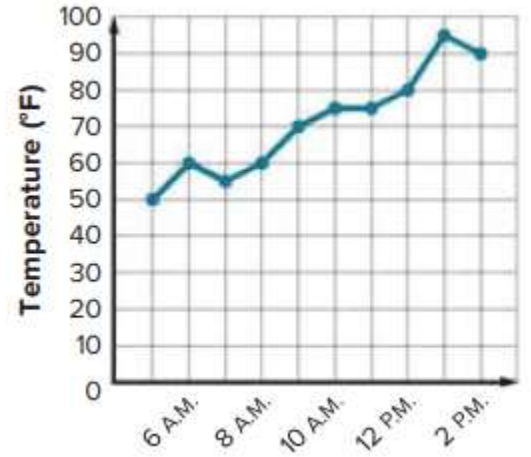
Population Density	
Year	People Per Square Mile
1930	22.1
1960	36.4
1980	54.3
2000	79.6
2009	96.7

Source: Bureau of the Census,
U.S. Dept. of Commerce

In 2012, there were approximately 275 students in the Delaware High School band. In 2018, that number increased to 305. Find the annual rate of change in the number of students in the band.

The graph shows the temperature in a city during different hours of one day.

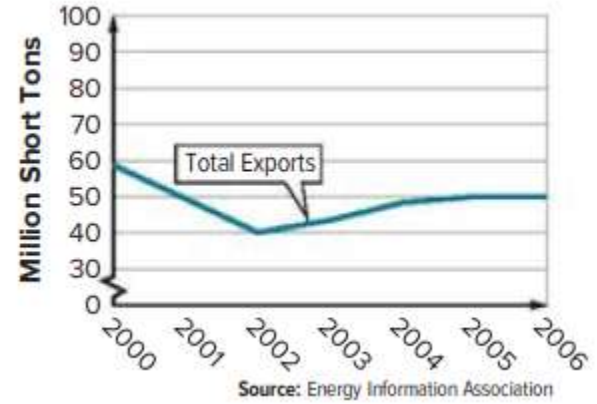
a. Find the rate of change in temperature between 6 A.M. and 7 A.M. and describe its meaning in the context of the situation.



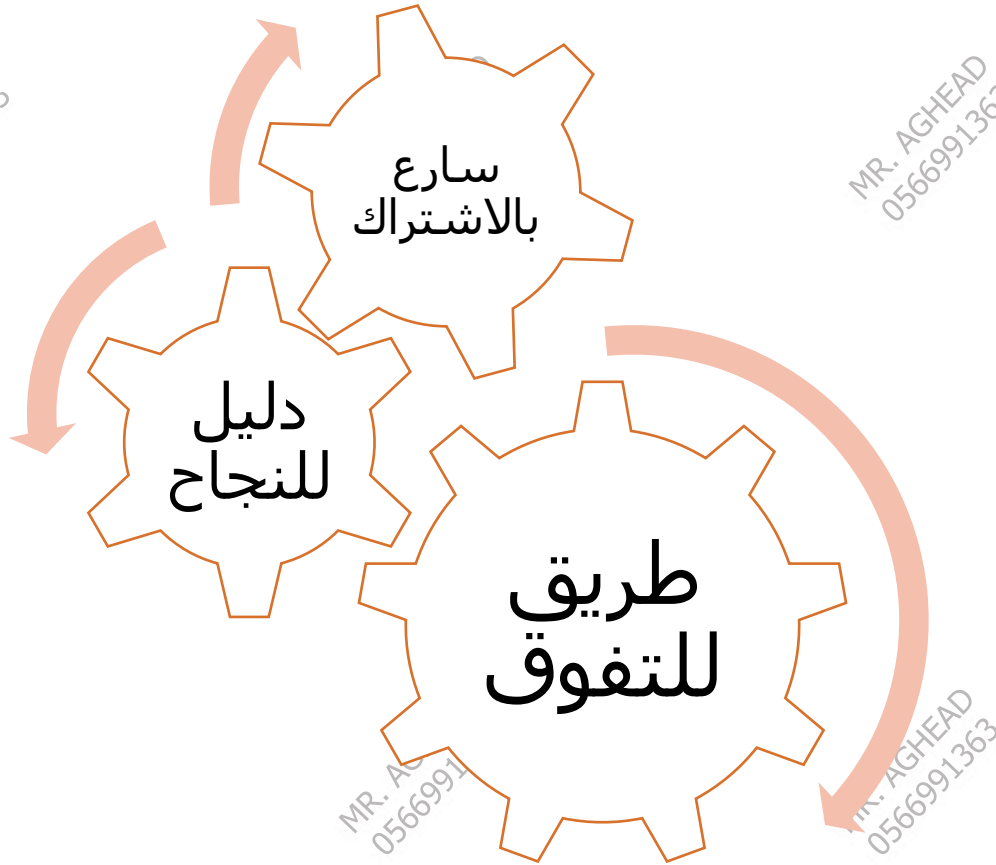
b. Find the rate of change in temperature from 1 P.M. and 2 P.M. and describe its meaning in the context of the situation.

The graph shows the annual coal exports from U.S. mines in millions of short tons.

- a. Find the rate of change in coal exports between 2000 and 2002 and describe its meaning in the context of the situation.



- b. Find the rate of change in coal exports between 2005 and 2006 and describe its meaning in the context of the situation.



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