Unit 2 – Integers

Grade 8 Mathematics
Exam Review

1. Find the product $(+5) \times (-9)$.

2. Find the product of -4 and -7.

3. Find the product of -10 and +3.

4. Replace $\square$ with an integer to make the equation true.
$\square \times (-5) = -30$

5. Replace $\square$ with an integer to make the equation true.
$(+30) \times \square = -150$

6. Let one white tile represent +1 and one black tile represent -1.
What sum does this set of tiles model? Write the addition equation.

7. Let one white tile represent +1 and one black tile represent -1.
What sum does this set of tiles model? Write the addition equation.

8. Let one white tile represent +1 and one black tile represent -1.
What sum is modelled by 6 white tiles and 2 black tiles?

9. Let one white tile represent +1 and one black tile represent -1.
What sum is modelled by 19 positive tiles and 16 negative tiles?

10. Use coloured tiles to find the sum.
(+3) + (+2)

11. Use coloured tiles to find the sum.
(–9) + (–3)

12. Add.
(-8) + (+12)

13. Add.
$(+10) + (-11)$

14. Add.
$(+5) + (-8)$

15. Use coloured tiles to find the sum.
(+5) + (+4) + (–4)

16. Find this product. $(+5)(-3)$

17. Find this product. $(-6)(+5)$

18. Find this product. $(-15) \times (-8)$

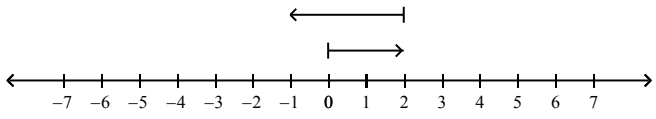
19. Find this product. $(-14) \times (+11)$

20. A deep-sea diver must descend and ascend in short steps to equalize pressure on his body. Suppose a diver started at 27 m below the water surface and rose in 5 steps of 5 m each. Use an integer to describe his new position in relation to the water surface.

21. Which of these products are negative?
i) $(+4)(+8)$
ii) $(+4)(-9)$
iii) $(-5)(+9)$
iv) $(-8)(-5)$

22. Which of these products are positive?
i) $(+3)(-8)(+9)$
ii) $(-4)(+9)(-8)$
iii) $(-8)(-9)(+4)$
iv) $(-3)(-9)(-4)$

23. Write an addition equation modelled by the number line.



24. Use a number line to add: (+6) + (–3). Write the addition equation.

25. Use a number line to add.
(+14) + (+11)

26. Use a number line to add.
(+14) + (+12)

27. Use a number line to add.
$(-3) + (-19)$

28. Use a number line to add.
$(-8) + (-9)$

29. Use a number line to add.
$(-2) + (+10)$

30. The temperature is 15°C and drops 8°C.
Write an addition equation to calculate the final temperature. What is the final temperature?

31. Sam owns a small business. He made a profit of $7 on Saturday and lost $10 on Sunday.
Find the total profit or loss for the weekend.

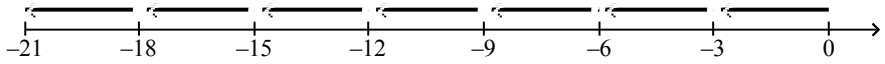
32. In a golf tournament, Joey got a score of +11 and Melissa got a score of –5.
What was their combined score?

33. During the day the temperature was $3°C$. At night, the temperature dropped $9°C$.
What was the temperature at night?

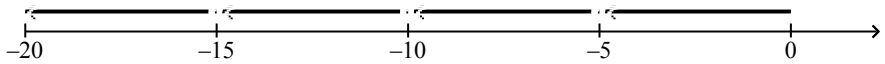
34. Atoms contain charged particles called protons and electrons.
Each proton has a charge of +1, and each electron has a charge of -1.
A sulfur ion has 16 protons and 18 electrons.
Find the overall charge.

35. Use <, >, or = to complete this sentence.
(+1) + (–14) ☐ (+7) + (–4)

36. Write the integer division modelled by this number line.



37. Write the integer division modelled by this number line.



38. Find the quotient $(+8) \div (-1)$.

39. Find the quotient $(-18) \div (+6)$.

40. Find the quotient $(-21) \div (-3)$.

41. Which quotients are positive?
i) $(+21) \div (-7)$
ii) $(+84) \div (+6)$
iii) $(-32) \div (+4)$
iv) $(-12) \div (-6)$

42. Start at 0 on the number line. Move 2 units left each time until you reach -10.
How many moves did you make?

43. Inside a cooling tower, the temperature fell 3°C each hour for a total change of -27°C.
Find the number of hours it took for the change in temperature.

44. Find this quotient. $(+28) \div (-7)$

45. Find this quotient. $(-70) \div (-7)$

46. Find this quotient. $(+40) \div (-8)$

47. Find this quotient. $(-156) \div (+12)$

48. Divide. $(-60) \div (+2)$

49. Divide. $\frac{+40}{-10}$

50. Divide. $\frac{-66}{+3}$

51. A mountain climber is at an elevation of 3660 m. After 3 h, he is at an elevation of 1953 m.
Use this formula to find the climber's vertical speed.

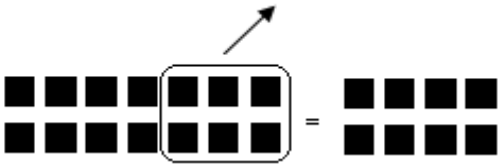
$$\text{Vertical speed} = \frac{\text{Final elevation} - \text{Initial elevation}}{\text{Time}}$$

52. One day at 3 p.m., the temperature was -6°C in a city in Alaska.
At 10 p.m., the temperature was -20°C.
What was the average change in temperature per hour?

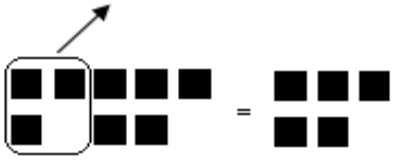
53. Let one white tile represent +1 and one black tile represent -1.
Use tiles to subtract.
(+12) - (-5)

54. Let one white tile represent +1 and one black tile represent -1.
Use tiles to subtract.
(+11) - (+7)

55. Let one black tile represent -1.
Write the subtraction equation modelled by this diagram.



56. Let one black tile represent -1.
Write the subtraction equation modelled by this diagram.



57. Use tiles to subtract.
(+5) - (+7)

58. Use tiles to subtract.
(+8) - (+12)

59. Use tiles to subtract.
(-8) - (-7)

60. Use tiles to subtract.
(–3) - (–2)

61. Use tiles to subtract.
(–8) - (+6)

62. Bryan gets on an elevator at the 35^{th} floor. The elevator goes down 17 floors then up 9 floors.
At what floor does it finally stop?

63. Copy and complete.
(+6) – c = –19

64. Evaluate. $24+4(-7)$

65. Evaluate. $18\div(-3)+4$

66. Evaluate. $11\times11\div11$

67. Evaluate. $9+(-7)-(-4)$

68. Evaluate. $(-6)[(-3)+9]$

69. Evaluate. $(-4)\times(-15)\div6$

70. Evaluate. $(-6)\times(-7)-(-7)$

71. Evaluate. $6\times(2-8)+4$

72. Evaluate. $3 \times 8 - 6 \times (-5)$

73. Evaluate. $-13 + 9 \div (-3) + 9$

74. Use a number line to subtract.
(+1) – (–4)

75. Use a number line to subtract.
(–5) – (–9)

76. Use a number line to subtract.
(+3) – (+5)

77. Use a number line to subtract.
(–8) – (+7)

78. Subtract.
(–28) – (+3)

79. Determine the increase from –49 to –35.

80. A submarine at sea level dives 9 m and then another 8 m.
Write the final depth of the submarine as an integer.

81. Use a number line to evaluate.
(+12) – (+8) – (+9)

82. Use a number line to evaluate.
(+12) + (–8) – (+6)

Unit 2 - Answer Key

1. -45

2. +28

3. -30

4. +6

5. -5

6. (-4) + (+3) = –1

7. (+6) + (-2) = +4

8. +4

9. +3

10. +5

11. –12

12. +4

13. –1

14. –3

15. +5

16. –15

17. –30

18. +120

19. –154

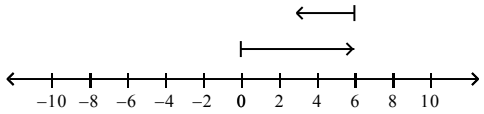
20. -2 m

21. ii and iii

22. ii and iii

23. (+2) + (-3) = -1

24.



(+6) + (–3) = +3

25. +25

26. +26

27. –22

28. –17

29. +8

30. (+15) + (-8) = +7; 7°C

31. $3 loss

32. +6

33. –6 °C

34. -2

35. <

36. $(-21) \div (-3) = +7$

37. $(-20) \div (-5) = +4$

38. -8

39. -3

40. +7

41. ii and iv

42. 5

43. 9 h

44. –4

45. +10

46. –5

47. –13

48. –30

49. –4

50. –22

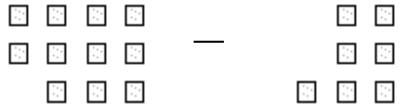
51. –569 m/h

52. -2°C

53.

+17

54.



+4

55. (-14) - (-6) = -8

56. (-8) - (-3) = -5

57. –2

58. –4

59. -1

60. –1

61. –14

62. 27

63. +25

64. –4

65. –2

66. 11

67. 6

68. –36

69. 10

70. 49

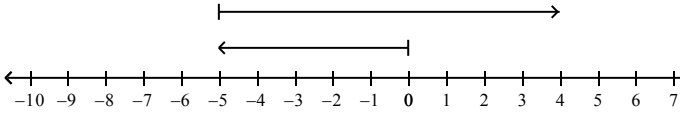
71. –32

72. 54

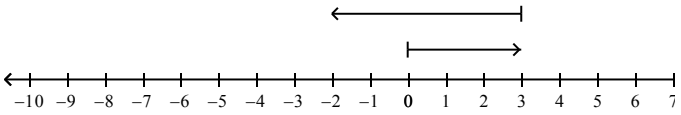
73. –7

74. +5

75.



76.



77. –15

78. –31

79. +14

80. –17 m

81. –5

82. –2