**SECTION 1: *EXPONENTS AND SCIENTIFIC NOTATION***

**D.** 9 × 106

**C.** 9 × 105

**B.** 9 × 104

**A.** 9 × 103

**11.** The speed of light is approximately 3 × 108 meters per second, while the speed of sound is approximately 3.4 × 102 meters per second. How many times faster is the speed of light than the speed of sound?

**H.** 1.9 × 103 **I.** 1.9 × 102

**F.** 467,200 **G.** 4.672 × 105

**10.** What is the value of the expression below written in scientific notation?

(4.7 × 105) – (2.8 × 103)

**Page 1**

**9.**

**8.**

**7.**

**D.** 7.5 × 106

**C.** 7,500,000

**B.** 7.5 × 105

**A.** 750,000

**9.** What is the value of the expression below written in scientific notation?

(2.5 × 103)(3 × 102)

**I.** 864 × 10–4

**H.** 864 × 10–2

**G.** 8.64 × 102

**F.** 8.64 × 104

**8.** In one 24-hour day there are 86,400 seconds. What is this number written in scientific notation?

**6.**

**D.** 0.00003471

**C.** 0.0003471

**B.** 347,100

**A.** 3,471,000

**7.** What is 3.471 × 10–5 written in standard form?

3–2

**I.**

2–3

**H.**

**G.** −23

**F.** −32

**6.** How is the fraction written using a negative exponent?

**D.**

**C.** 15

**B.** 53

**A.** 35

**5.** How is the expression 5−3 written using a positive exponent?

27*x*12

**I.**

**H.** 27*x*7

**F.** 9*x*7

**G.** 9*x*12

**4.** What is the simplified form of the expression (3*x*4)3?

3610

**D.**

**3.** Using exponents, what is the simplified form of the expression 65 • 62?

**C.** 367

**B.** 610

**A.** 67

**I.** 112

**H.** 105

**G.** 1012

1018

**2.** Using exponents, what is the simplified form of the expression ?

**F.**

**D.** 64

**C.** 12

**B.** –12

**A.** –64

**1.** What is the value of the expression (−4)3?

**11.**

**10.**

**5.**

**Grade 8 Spring Break Packet**

**Write the letter for the correct answer in the blank at the right of each question.**

**4.**

**3.**

**2.**

**1.**

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1. 
2. 
3. 3x – 2(x **+** 10) = x – 20
4. 5x + 2(x – 3) = 5x + 5x + 2(3 – x)
5. 

**22.** Which equation has infinitely many solutions?

**22.**

**21.** Sarah and Bryan went shopping and spent a total of $47.50. Bryan spent $15.50 less than what Sarah spent. How much did Bryan spend?

**H.** $16 **I.** $15.50

**F.** $31.50 **G.** $31

**21.**

**20.**

**19.**

**D.** infinitely many solutions

**C.** 3

**B.** –1

**A.** –3

**20 .** 0.4(2 – *q*) = 0.2(*q* + 7)

**19.** – 3(*p* + 2) = –30

**I.** −

**H.** no solution

**G.** 8

**F.**

**18.**

**D.** 11

**C.** no solution

**B.** 2

**A.** –11

**18.** –2*y* – 3*y* + 8 = 8 – 5*y* – 12

**16.**

**17.**

**I.** 6

**H.** 2

**G.** –2

**F.** −6

**17.** 4*x* – 2 = 22 – 8*x*

**I.** –2

**G.** 2

**H.** –0.5

**15.**

**14.**

**15.** −5 – 3*w* = 7

**F.** 4

**D.** 10 weeks

**C.** 11 weeks

**B.** 15 weeks

**A.** 24 weeks

**16.** Marianna wants to buy a new tennis racket that costs $57.50. She has $8 and plans to save $4.50 each week. How many weeks will it take her to save the money?

**D.** –16

**C.** –4

**B.** 16

**A.** 4

**14.** – 5 = –3

**I.** 30

**H.** 27

**G.** –27

**F.** –30

**Solve each equation.**

**13.** 10 + *y* = 1

**C.** 5*n* – (–6) = –2 **D.** 5*n* + (–6) = –2

**B.** − 6 = –2

**A.** –6*n* + 5 = –2

**12.** The sum of five times a number and –6 is –2.

**Section 2: *Solve Equations***

**13.**

**12.**

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