

Math 8 - Cumulative Final Review 2 (2020-2021)**Multiple Choice**

Identify the choice that best completes the statement or answers the question.

DO ALL YOUR WORK ON A SEPERATE PIECE OF PAPER.

Evaluate the expression.

1. 5^4
a. 1024
b. 20
c. 125
d. 625

2. $(-6)^3$
a. -729
b. -18
c. -216
d. 729

3. $\left(-\frac{1}{2}\right)^5$
a. $\frac{1}{32}$
b. $-\frac{5}{32}$
c. $-\frac{1}{32}$
d. $\frac{5}{32}$

4. $6 + 8 \cdot (-2)^2$
a. 56
b. 262
c. 38
d. -26

5. 4.2^0
a. 0
b. 4.2
c. 1
d. 0.42

6. $\frac{2^3}{2^7}$
a. 16
b. $\frac{1}{16}$
c. $\frac{1}{8}$
d. $\frac{1}{4}$

7. $\frac{2^2}{2^7 \cdot 2^{-5}}$
a. 0
b. $\frac{1}{4}$
c. 1
d. 4

8. 7^{-2}
a. $\frac{1}{49}$
b. $\frac{1}{14}$
c. 49
d. $-\frac{1}{7}$

9. $(-6)^{-3}$
a. $-\frac{1}{36}$
b. 216
c. $-\frac{1}{18}$
d. $-\frac{1}{216}$

Simplify the expression. Write your answer as a power.

10. $5^9 \bullet 5^7$

- a. 5^{16}
- b. 5^{63}
- c. 25^{16}
- d. 16^5

11. $\left(-\frac{2}{3}\right)^6 \bullet \left(-\frac{2}{3}\right)^3$

- a. $\left(-\frac{4}{3}\right)^9$
- b. $\left(-\frac{2}{3}\right)^9$
- c. $\left(-\frac{2}{3}\right)^{18}$
- d. $\left(\frac{4}{9}\right)^9$

12. $b^4 \bullet b^3$

- a. 7^b
- b. $(2b)^7$
- c. b^{12}
- d. b^7

13. $z^4 \bullet z$

- a. $(2z)^4$
- b. $(2z)^5$
- c. z^5
- d. z^4

14. $(a^8)^6$

- a. $8a^6$
- b. a^{14}
- c. $6a^8$
- d. a^{48}

15. $\frac{(-3.8)^8 \bullet (-3.8)^6}{(-3.8)^6 \bullet (-3.8)^5}$

- a. $(-3.8)^{18}$
- b. $(-3.8)^{37}$
- c. $(-3.8)^3$
- d. $(-3.8)^{13}$

16. $\frac{(-7.2)^9}{(-7.2)^3}$

- a. $(-7.2)^{12}$
- b. $(-7.2)^6$
- c. 6
- d. $(-7.2)^{27}$

17. $\frac{d^{10} \bullet d^9}{d^3 \bullet d^5}$

- a. d^{11}
- b. d^{75}
- c. d^{21}
- d. d^{82}

18. $\frac{m^{27}}{m^{15} \bullet m^9}$

- a. m^3
- b. m^{51}
- c. m^{21}
- d. m^{33}

Simplify the expression.

19. $(-3v)^3$

- a. $-3v^9$
- b. $-9v^3$
- c. $-9v$
- d. $-27v^3$

20. $(2a)^3$

- a. $6a$
- b. $8a^3$
- c. $2a^6$
- d. $6a^3$

21. $\left(\frac{1}{3}s\right)^2$

- $\frac{1}{9}s^2$
- $\frac{2}{3}s^2$
- $\frac{1}{3}s^2$
- $\frac{2}{3}s$

22. $(ps)^5$

- $5ps^5$
- s^{5p}
- $5(ps)^5$
- p^5s^5

Write the number in standard form.

23. 3×10^8

- 2,400,000,000
- 300,000,000
- 30,000,000
- 3,000,000,000

24. 3.32×10^{-6}

- 0.00000332
- 0.0000332
- 0.000000332
- 0.00001992

Write the number in scientific notation.

25. 85,000

- 85×10^3
- 8.5×10^{-4}
- 8.5×10^5
- 8.5×10^4

26. 2,250,000

- 22.5×10^5
- 2.25×10^6
- 2.25×10^7
- 2.25×10^{-6}

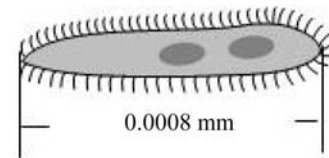
27. 0.0000000536

- 0.536×10^{-7}
- 5.36×10^{-9}
- 5.36×10^8
- 5.36×10^{-8}

28. 0.0000000007035

- 7.035×10^{10}
- 7.035×10^{-10}
- 0.7035×10^{-11}
- 7.035×10^{-9}

29. What is the length of the bacterium in scientific notation?



- 8×10^3 mm
- 8×10^4 mm
- 0.8×10^3 mm
- 8×10^{-4} mm

Multiply. Write your answer in scientific notation.

30. $(7 \times 10^5) \times (8 \times 10^7)$

- 5.6×10^{35}
- 5.6×10^{12}
- 5.6×10^{13}
- 5.6×10^{11}

31. $(8.7 \times 10^{-5}) \times (4 \times 10^{-6})$

- 3.48×10^{-11}
- 3.48×10^{30}
- 3.48×10^{-12}
- 3.48×10^{-10}

Divide. Write your answer in scientific notation.

32. $(6.3 \times 10^7) \div (1.26 \times 10^7)$

- a. 2.0×10^{-1}
- b. 5.0×10^{-1}
- c. 5.0×10^1
- d. 5.0×10^0

33. $(8.8 \times 10^{-7}) \div (2.2 \times 10^2)$

- a. 4.0×10^{-9}
- b. 2.5×10^8
- c. 4.0×10^{-10}
- d. 4.0×10^{-8}

Add or subtract. Write your answer in scientific notation.

34. $5.01 \times 10^6 - 2.92 \times 10^6$

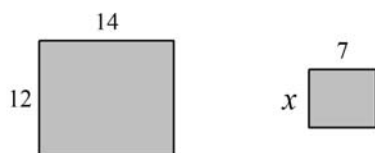
- a. 2.09×10^5
- b. 2.09×10^{12}
- c. 2.09×10^6
- d. 2.09×10^7

35. $9.34 \times 10^4 - 9.89 \times 10^3$

- a. 5.5×10^6
- b. 8.351×10^5
- c. 8.351×10^3
- d. 8.351×10^4

The polygons are similar. Find x .

36.



- a. 5
- b. 8
- c. 12
- d. 6

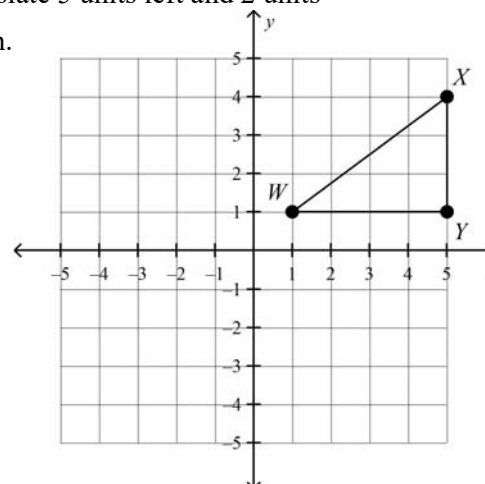
37.



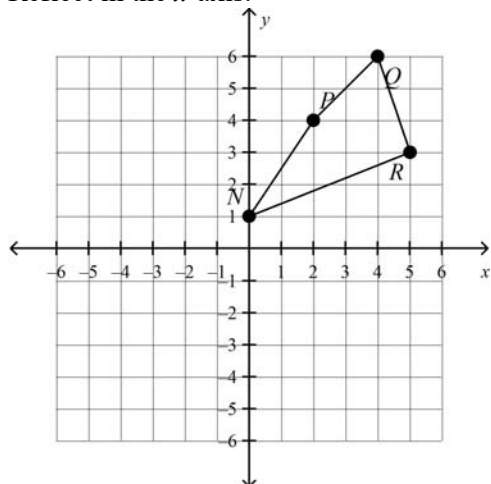
- a. 18
- b. 16
- c. 19
- d. 9

Find the coordinates of the image after the transformation.

38. Translate 5 units left and 2 units down.

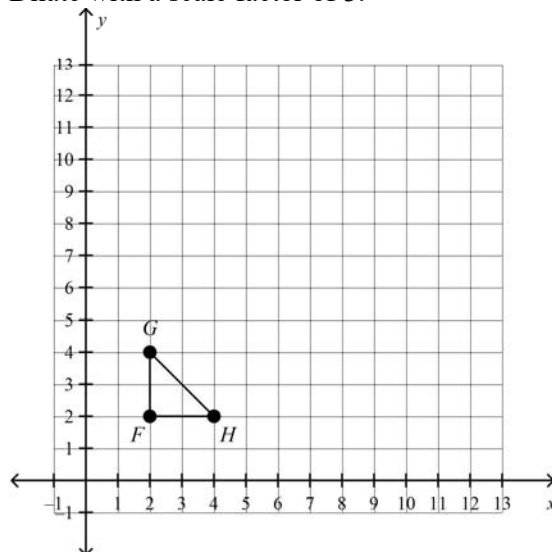


- a. $W'(-1, -4)$, $X'(3, -1)$, $Y'(3, -4)$
- b. $W'(-4, 3)$, $X'(0, 6)$, $Y'(0, 3)$
- c. $W'(6, -1)$, $X'(10, 2)$, $Y'(10, -1)$
- d. $W'(-4, -1)$, $X'(0, 2)$, $Y'(0, -1)$

39. Reflect in the x -axis.

- $N'(0, -1), P'(2, -4), Q'(4, -6), R'(5, -3)$
- $N'(-0, -1), P'(-2, -4), Q'(-4, -6), R'(-5, -3)$
- $N'(0, 1), P'(2, 4), Q'(4, 6), R'(5, 3)$
- $N'(-0, 1), P'(-2, 4), Q'(-4, 6), R'(-5, 3)$

40. Dilate with a scale factor of 3.



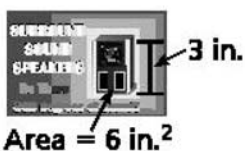
- $F'(6, 2), G'(6, 4), H'(12, 2)$
- $F'(\frac{2}{3}, \frac{2}{3}), G'(\frac{2}{3}, \frac{4}{3}), H'(\frac{4}{3}, \frac{2}{3})$
- $F'(6, 6), G'(6, 12), H'(12, 6)$
- $F'(2, 2), G'(2, 4), H'(4, 2)$

Numeric Response

- The ratio of the corresponding side lengths of two similar MP3 players is 4 : 3. The area of the larger MP3 player is 8 square inches. What is the area of the smaller MP3 player?

Short Answer

- The front of the speaker is similar to the front of a speaker in a photo. What is the area of the front of the speaker?



Math 8 - Cumulative Final Review 2 (2020-2021)

Answer Section

MULTIPLE CHOICE

1. D
2. C
3. C
4. C
5. C
6. B
7. C
8. A
9. D
10. A
11. B
12. D
13. C
14. D
15. C
16. B
17. A
18. A
19. D
20. B
21. A
22. D
23. B
24. A
25. D
26. B
27. D
28. B
29. B
30. C
31. D
32. D
33. A
34. C
35. D
36. D
37. A
38. D

39. A

40. C

NUMERIC RESPONSE

1. 4.5 in^2

SHORT ANSWER

1. 216 in.^2