**Simplify**

**April 2015**

36. Whenever x and y are nonzero, (8x5y4)(6x13y3) / 16x6y14 = ?

F. 3x3y2

G. 3x3/y2

H. 3x6/16y21

J. 3x12/y7

K. 3x59/y2

**June 2015**

1. Which of the following expressions is equivalent to *a*(4 – *a*) – 5(*a* + 7) ?

A. -2*a* – 35

B. -2*a* + 7

C. –*a*2 – *a* + 7

D. –*a*2 – *a* + 7

E. -2*a*3 – 35

47. For all nonzero values of *x*, (12*x*6 – 9*x*2) / 3*x*2 = ?

A. 4*x*3 – 3*x*

B. 4*x*3 – 3

C. 4*x*4 – 9*x*2

D. 4*x*4 – 3*x*

E. 4*x*4 – 3

**June 2016**

13. Which of the following expressions is equal to (3*x*2 – 4*x* – 5) – (–*x*2 + 6*x* +7) for all real values of *x* ?

A. 2*x*2 – 10*x* – 12

B. 2*x*2 – 10*x* – 2

C. 4*x*2 – 10*x* – 12

D. 4*x*2 – 10*x* + 2

E. 4*x*2 + 2*x* + 2

**April 2016**

3. (9*m* – 4*n*) – (2*n* + 5*m*) is equivalent to:

A. 4*m* – 6*n*

B. 4*m* – 2*n*

C. 5*m* + 3*n*

D. 7*m* – 9*n*

E. 7*m* + *n*

41. For all x=/= -2, which of the following expressions is equal to (x2 + 5x + 6) / (x + 2) + x + 5 ?

A. x + 8

B. 2x + 8

C. x2 + 8x + 15

D. (2x + 8) / (x + 2)

E. (x2 + 6x + 11) / (x + 2)

**December 2016**

28. Which of the following operations will produce the largest result when substituted for the blank in the expressions 11 \_\_\_\_\_ (-1/83) ?

F. Averaged with

G. Divided by

H. Minus

J. Plus

K. Multiplied by

31. Which of the following expressions is equal to 3 / (4 – rad5) ?

A. 3/11

B. 3/7

C. (12 – 3rad5) / 21

D. (12 + rad15) / 11

E. (12 + 3rad5) / 11

**June 2017**

7. What is the sum of 0.1x2 + 3x + 80 and 0.5x2 - 2x + 60 for all x?

1. -0.4x2 + 5x + 20
2. 0.6x2 + x + 140
3. 0.6x2 + 5x + 140
4. x2 + 5x + 140
5. 5.6x2 + 140

14. Which of the following integers is closest to rad(50)/2 ?

F. 3

G. 4

H. 5

J. 13

K. 14

37. For all real numbers x such that x =/= 0, 4/5 + 7/x = ?

A. 11 / 5x

B. 28 / 5x

C. 11 / (5 + x)

D. (7x + 20) / (5 + x)

E. (4x + 35) / 5x

**April 2017**

25. (4.8 x 10 -7 ) / (1.6 x 10 -11 ) = ?

A. 3.0 x 10 4

B. 3.0 x 10 -4

C. 3.0 x 10-18

D. 3.2 x 10 18

E. 3.2 x 10 4