

Exercise 3.3

$$\begin{array}{r} 1) \quad 5.23 \\ \times 0.24 \\ \hline 2092 \\ 1046 \\ \hline 12552 \end{array}$$

4 decimal places

1.2552

$$\begin{array}{r} 2) \quad 13.26 \\ \times 23 \\ \hline 3978 \\ 2652 \\ \hline 30498 \end{array}$$

2 decimal places

304.98

$$\begin{array}{r} 3) \quad 12.45 \\ \times 3.1 \\ \hline 1245 \\ 3735 \\ \hline 38595 \end{array}$$

3 decimal places

38.595

$$\begin{array}{r} 4) \quad -12.1 \\ \times 5.2 \\ \hline 242 \\ 605 \\ \hline -6292 \end{array}$$

2 decimal places

-62.92

$$\begin{array}{r} 5) \quad 0.45 \\ \times -22.1 \\ \hline 045 \\ 090 \\ 90 \\ \hline -9945 \end{array}$$

3 decimal places

-9.945

$$\begin{array}{r} 6) \quad -7.1 \\ \times 0.3 \\ \hline -213 \end{array}$$

2 decimal places

-2.13

$$\begin{array}{r} 7) \quad -5.2 \\ \times -3.34 \\ \hline 208 \\ 156 \\ 156 \\ \hline 17368 \end{array}$$

3 decimal places

17.368

$$\begin{array}{r} 8) \quad \cancel{-1.38} \\ \times -2.1 \\ \hline 138 \\ 276 \\ \hline 2898 \end{array}$$

3 decimal places

2.898

$$\begin{array}{r} 9) \quad -0.3 \\ \times -0.7 \\ \hline 21 \end{array}$$

Two decimal places

0.21

$$\begin{array}{r} 10) \quad -0.00023 \\ \times -0.0012 \\ \hline 46 \\ 23 \\ \hline 276 \end{array}$$

9 decimal places

0.000000276

$$\begin{array}{r} 11) \quad -0.000235 \\ \times 0.0012 \\ \hline 470 \\ 235 \\ \hline -2820 \end{array}$$

10 decimal places

-0.0000002820

$$\begin{array}{r} 12) \quad 0.003 \\ \times -2.1 \\ \hline 03 \\ 6 \\ \hline -63 \end{array}$$

4 decimal places

-0.0063

$$\begin{array}{r} 13) \quad 0.00001 \\ \times 1.23 \\ \hline 003 \\ 002 \\ 01 \\ \hline 123 \end{array}$$

7 decimal places

0.0000123

$$14) \quad (-2.135)(1000) = \underline{-2135}$$

move decimal to right by 3

$$15) \quad (-13.3)(10) = \underline{-133}$$

move decimal to right by 1

$$16) \quad r = 3m$$

$$C = 2\pi(3m)$$

$$= 6\pi m$$

$$\approx 6(3.14)m$$

$$\approx \underline{18.84m} \quad 18.84$$

$$17) \quad C = d\pi$$

$$C = (7in)\pi$$

$$\approx 7(3.14)in$$

$$\approx \underline{21.98in}$$

$$18) \quad C = d\pi$$

$$C = (6ft)\pi$$

$$\approx 6(3.14)ft$$

$$\approx \underline{18.84ft}$$

$$19) \quad \begin{array}{r} 36 \overline{) 45.36} \\ \underline{36} \\ 93 \\ \underline{72} \\ 216 \\ \underline{216} \\ 0 \end{array}$$

1.26

$$20) \quad \begin{array}{r} -2.254 \\ -12 \overline{) 27.048} \\ \underline{-24} \\ 30 \\ \underline{-24} \\ 64 \\ \underline{-60} \\ 48 \\ \underline{48} \\ 0 \end{array}$$

-2.254

$$21) \quad \begin{array}{r} -0.17 \\ 15 \overline{) -2.55} \\ \underline{-15} \\ 105 \\ \underline{-105} \\ 0 \end{array}$$

-0.17

$$22) \quad \begin{array}{r} -2.25 \\ 12 \overline{) -27.00} \\ \underline{-24} \\ 30 \\ \underline{24} \\ 60 \\ \underline{60} \\ 0 \end{array}$$

-2.25

Exercise 3.3 continued

23)

$$-2.1 \overline{) -25.83} \quad \text{Same sign}$$

$$\begin{array}{r} 12.3 \\ 21 \overline{) 258.3} \\ \underline{-21} \\ 48 \\ \underline{-42} \\ 63 \\ \underline{-63} \\ 0 \end{array} \quad \boxed{12.3}$$

28)

$$0.4444$$

$$9 \overline{) 4.0000}$$

$$\begin{array}{r} 36 \\ \underline{-36} \\ 40 \\ \underline{-36} \\ 40 \\ \underline{-36} \\ 40 \\ \underline{-36} \\ 4 \end{array} \quad \boxed{0.444}$$

24)

$$1.2 \overline{) -3.9} \quad \text{mixed signs}$$

$$\begin{array}{r} -3.25 \\ 12 \overline{) -39.00} \\ \underline{-36} \\ -30 \\ \underline{-24} \\ 60 \\ \underline{-60} \\ 0 \end{array} \quad \boxed{-3.25}$$

29)

$$-5 \overline{) -0.4}$$

$$\begin{array}{r} 2.0 \\ \underline{-20} \\ 0 \end{array} \quad \boxed{-0.4}$$

~~30)~~

~~$$\begin{array}{r} 1.5 \\ 2 \overline{) 3.0} \\ \underline{-2} \\ 10 \\ \underline{-10} \\ 0 \end{array} \quad \boxed{-1.5}$$~~

25)

$$3.1 \overline{) 7.2}$$

$$\begin{array}{r} 2.3225 \\ 31 \overline{) 72.0000} \\ \underline{-62} \\ 100 \\ \underline{-93} \\ 70 \\ \underline{-62} \\ 80 \\ \underline{-62} \\ 180 \\ \underline{-155} \\ 25 \end{array} \quad \boxed{2.323}$$

need to go out to ten-thousandths for rounding

30)

$$-3 \overline{) -0.6666}$$

$$\begin{array}{r} 2.0 \\ \underline{-18} \\ 20 \\ \underline{-18} \\ 20 \\ \underline{-18} \\ 20 \\ \underline{-18} \\ 2 \end{array} \quad \boxed{-0.666}$$

26)

$$6 \overline{) -0.8716}$$

$$\begin{array}{r} -5.2300 \\ 6 \overline{) -5.2300} \\ \underline{-48} \\ 43 \\ \underline{-42} \\ 10 \\ \underline{-6} \\ 40 \\ \underline{-36} \\ 4 \end{array} \quad \boxed{-0.872}$$

31)

$$\frac{2}{5} \quad 0.46$$

$$\boxed{0.4 < 0.46}$$

32)

$$0.21 \quad \frac{1}{8}$$

$$\boxed{0.21 \neq 0.125}$$

33)

$$-\frac{1}{7} \quad -0.14$$

$$\boxed{-0.1429 < -0.14}$$



Need only 3 decimal places for comparison.
I did one extra.

27)

$$-0.23 \overline{) -1.23} \quad \text{Same sign}$$

$$\begin{array}{r} 5.3478 \\ 23 \overline{) 123.0000} \\ \underline{115} \\ 80 \\ \underline{69} \\ 110 \\ \underline{92} \\ 180 \\ \underline{184} \\ 190 \end{array} \quad \boxed{5.348}$$

for $\frac{1}{8}$

$$\begin{array}{r} 0.125 \\ 8 \overline{) 1.000} \\ \underline{8} \\ 20 \\ \underline{16} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

for $\frac{1}{7}$

$$\begin{array}{r} -0.14285 \\ -7 \overline{) 1.00000} \\ \underline{7} \\ 30 \\ \underline{28} \\ 20 \\ \underline{14} \\ 60 \\ \underline{56} \\ 40 \\ \underline{35} \\ 5 \end{array}$$